SEP 2 9 2005

Replacement Sheet

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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.

Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency

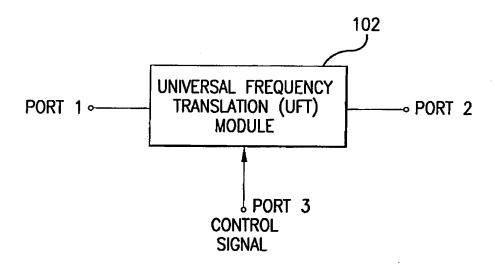


FIG. 1A

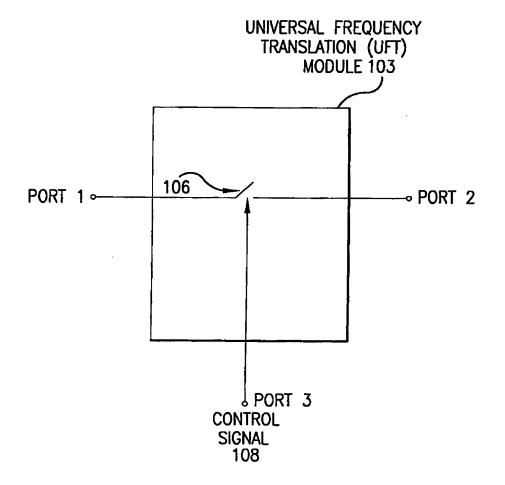


FIG. 1B

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Translation

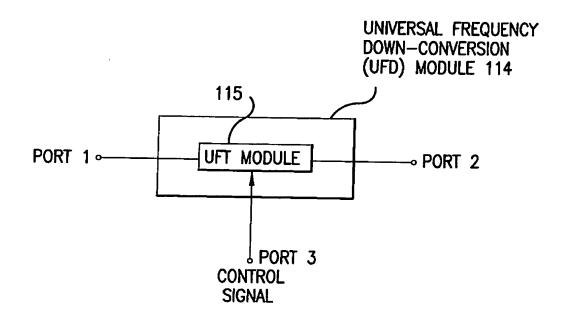


FIG. 1C

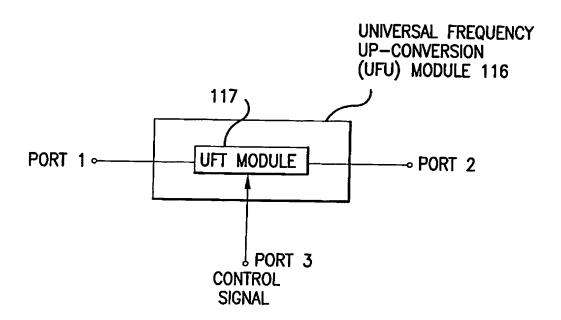
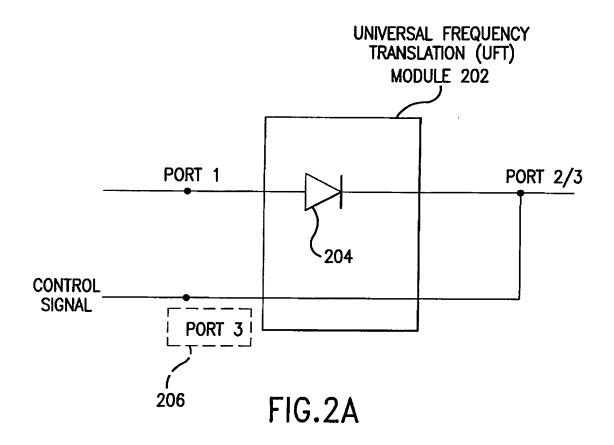


FIG. 1D

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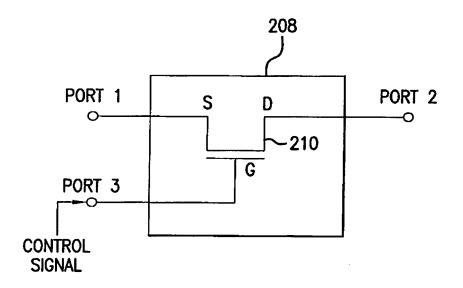


FIG.2B

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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
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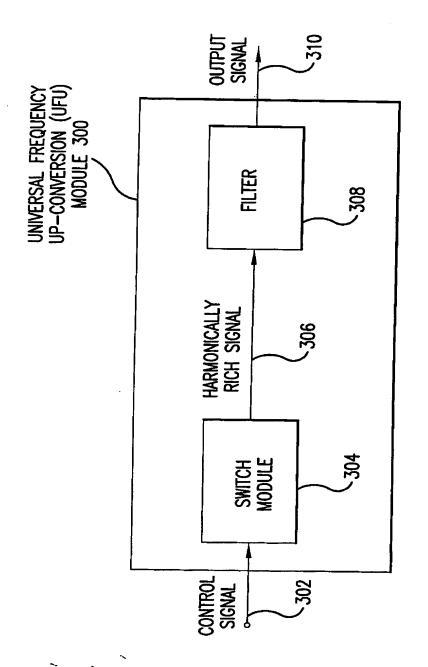
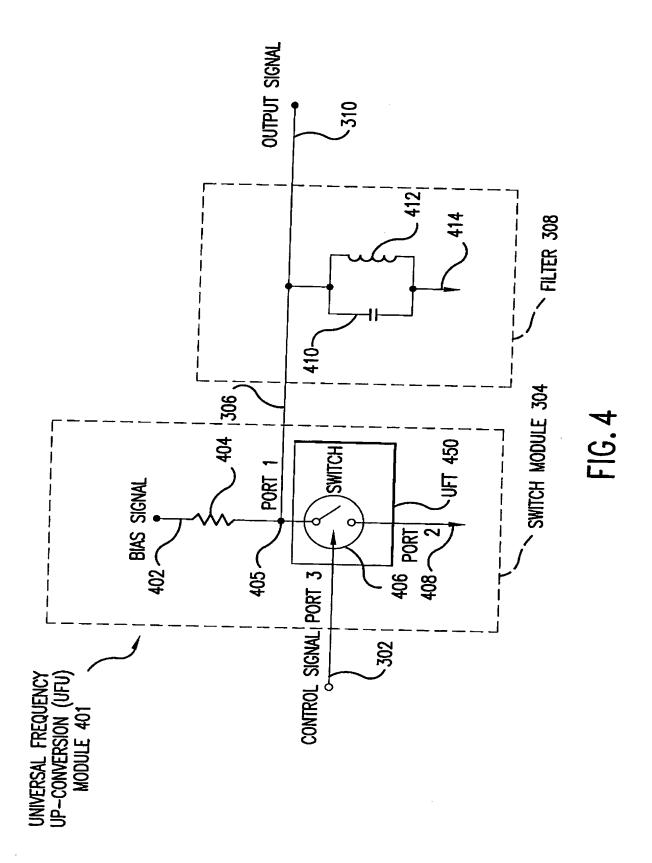


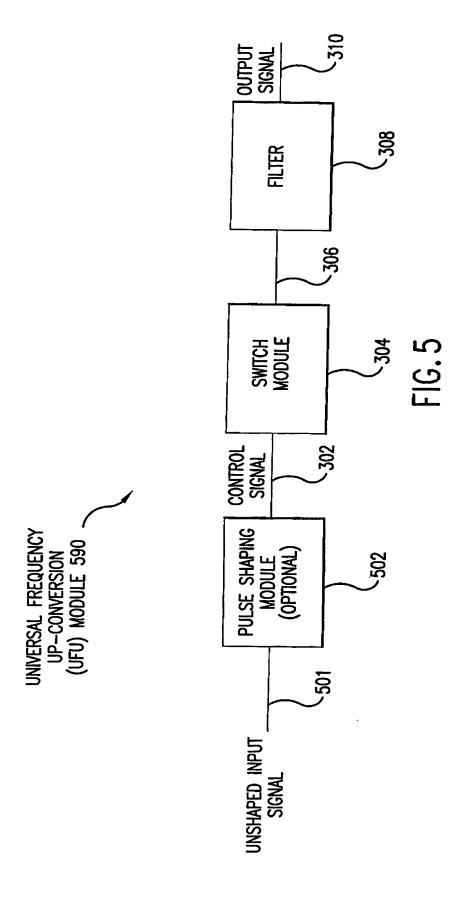
FIG. 3

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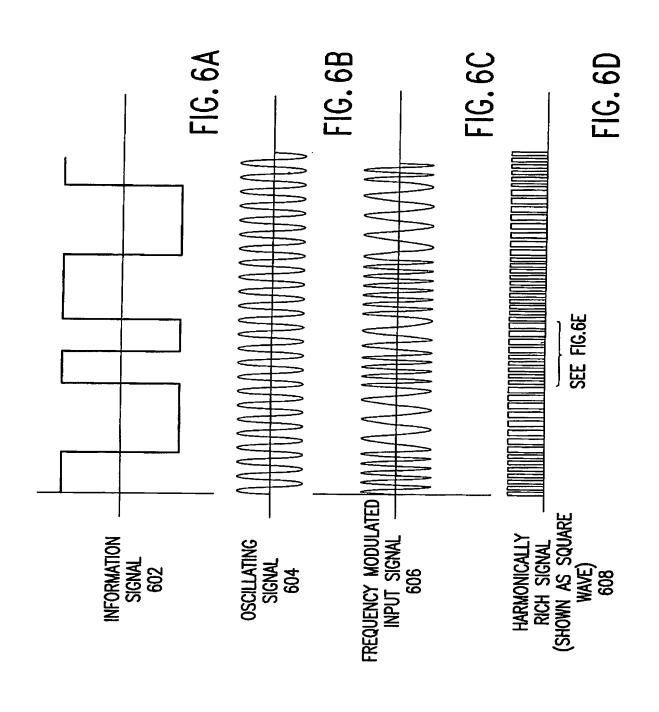


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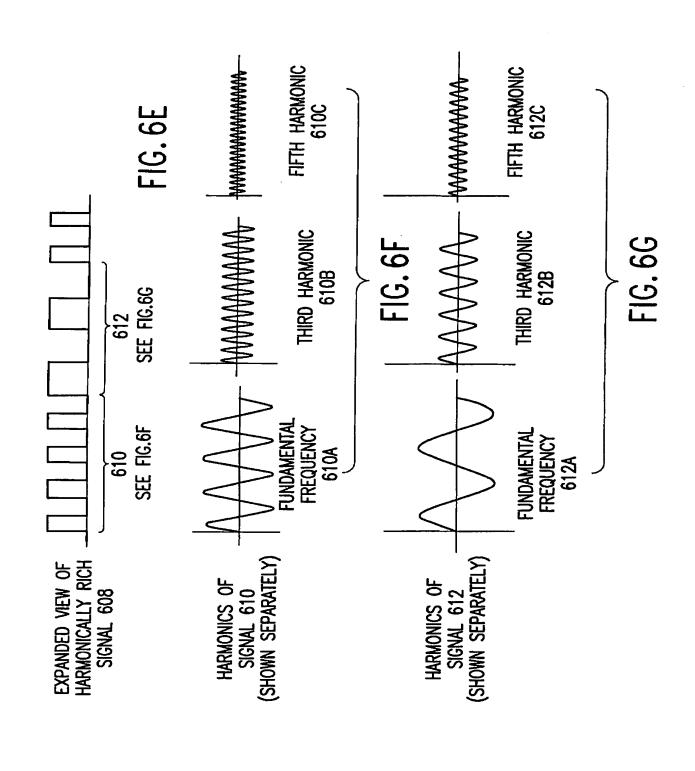
Replacement Sheet Sheet 7 of 189 Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634

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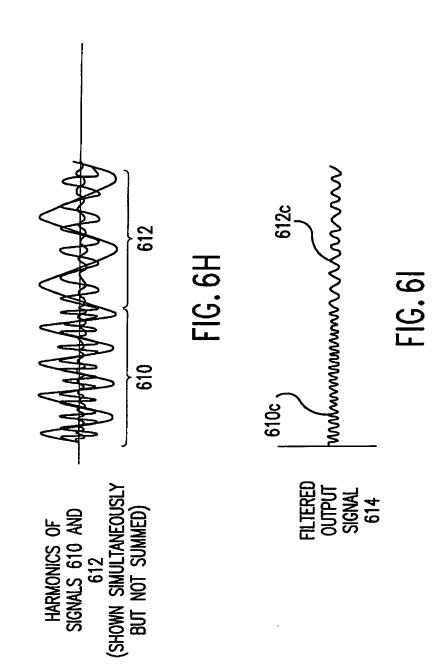


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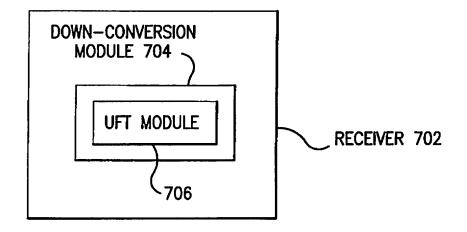


FIG. 7

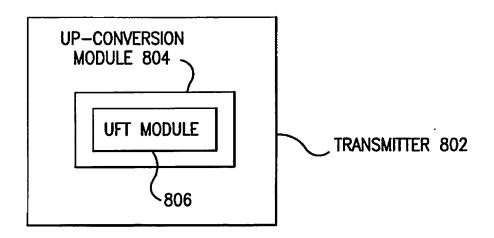


FIG.8

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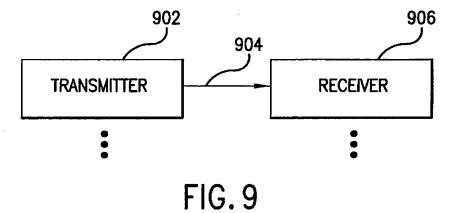
Dkt No. 1744.0450002; Group Unit: 2634

Inventors: Sorrells et al.

Tel. No.: 202-371-2600

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Translation



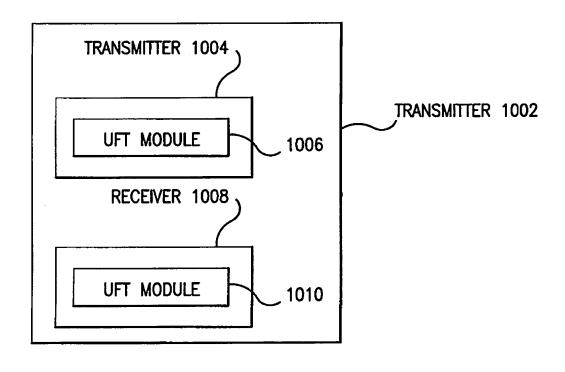


FIG. 10

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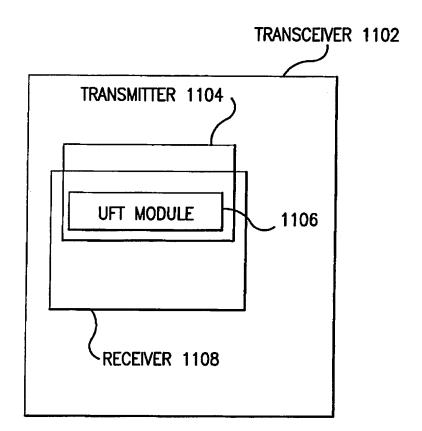


FIG. 11

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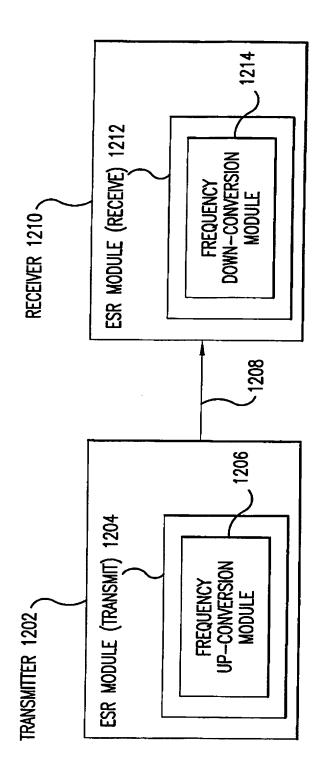


FIG. 12

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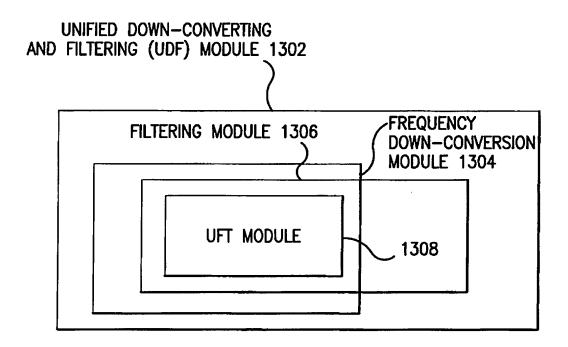


FIG. 13

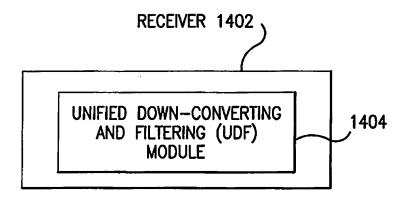
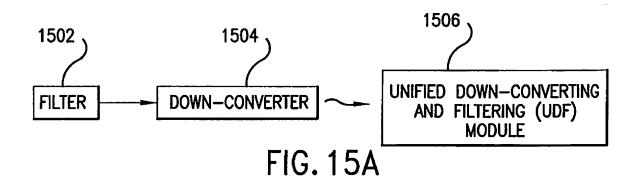
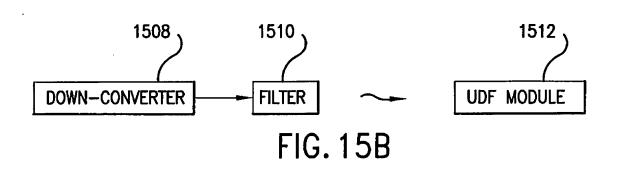
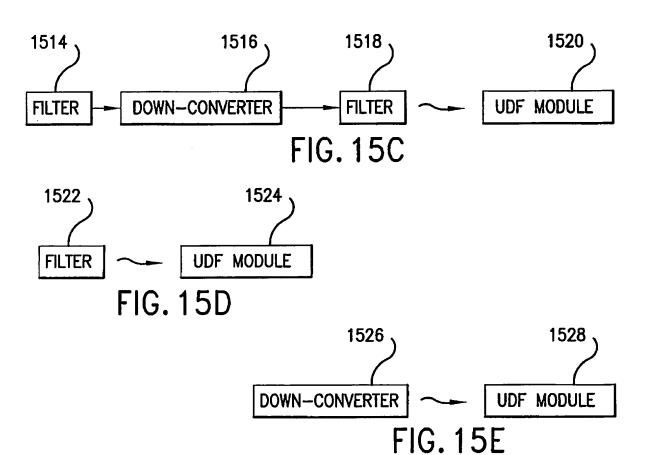


FIG. 14

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Translation

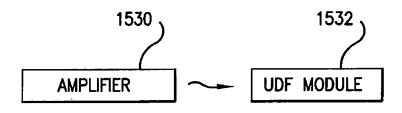


FIG. 15F

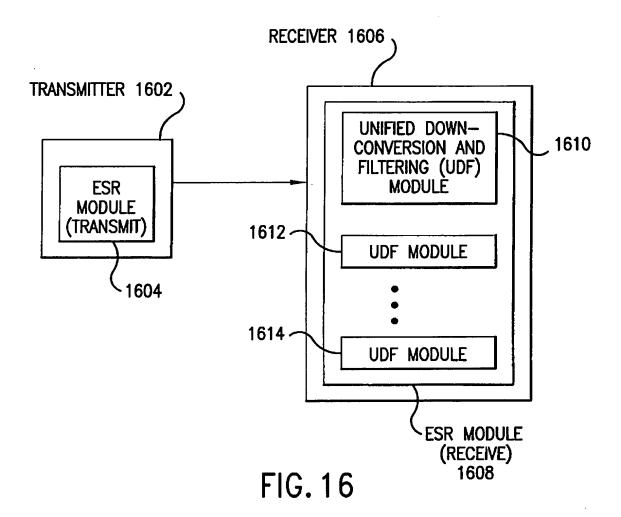
Replacement Sheet

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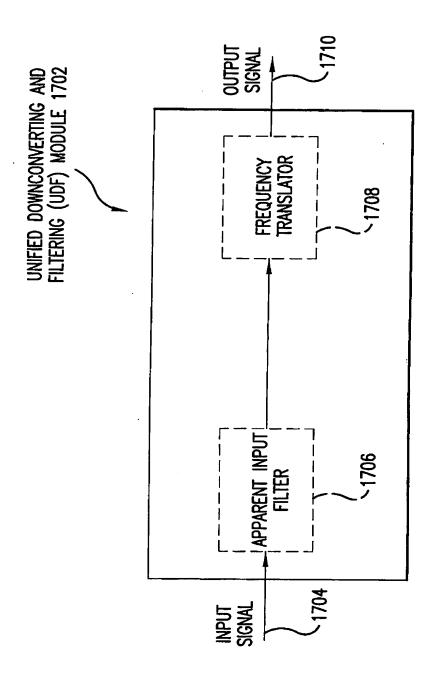


FIG. 17

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Inventoris: Sorrells et al.
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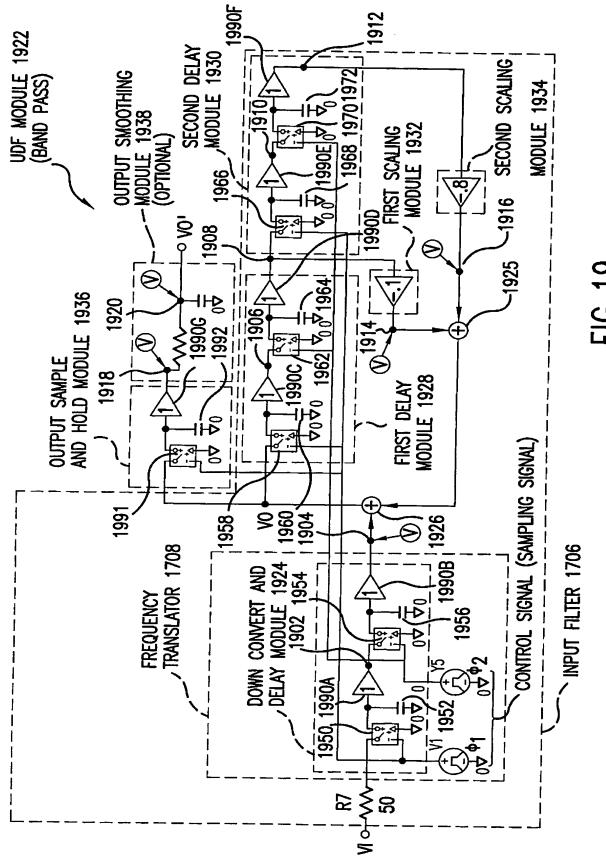
TIME	t-1	t-1	, i	1		+		±,	
NODE	(RISING EDGE OF 41)	e (Rising Edge OF #2)	FDGF	(RISING EDGE (RISING EDGE OF ϕ_1) OF ϕ_2)	DGE	(RISING OF ϕ_2)	EDGE	(RISING EDGE OF 41)	EDGE
1902	VI _{t-1} 1804	M _{t-1}	808	VI _t 18	1816	۷۱	1826	W _{t+1}	1838
1904	1	VI t1	1810	W _{t−1} 1	1818	۷۱ _t	1828	Μŧ	1840
1906	V0 _{t-1} 1806	V0 _{t-1} 1812		V0 _t 1	1820	V0 _t	1830	V0 _{t+1}	1842
1908	1	V0 _{t-1} 1814	1814	W0t-1	1822	V0 _t	1832	vo _t	1844
1910	1807	1		V0t−1 1	1824	V0 _{t-1}	1834	۷0 _t	1846
1912	1	1	1815	1		₩t-1	1836	W0t-1	1848
1918	1	i		i		1		$N_{\rm t}$ 1850 0.1* $V0_{\rm t}$ 0.8* $V0_{\rm t}$ 1	1850 t- t-1

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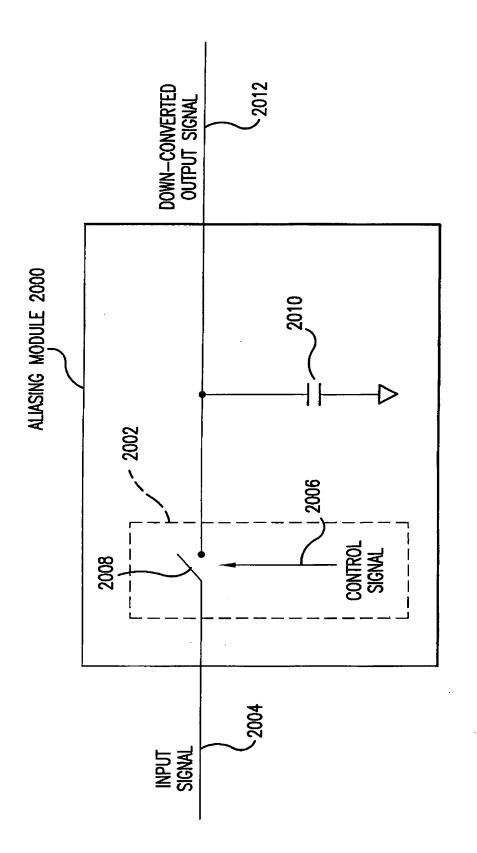


FIG. 20A

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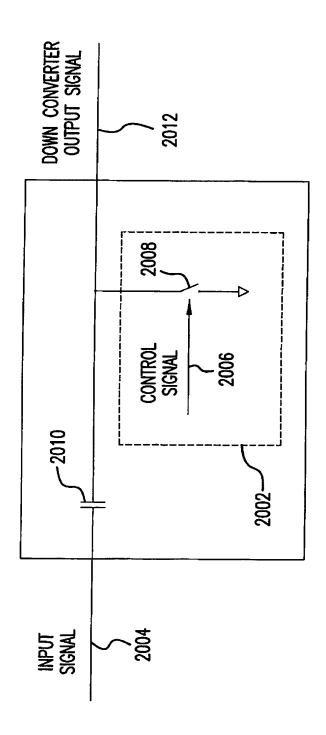


FIG.20A-1

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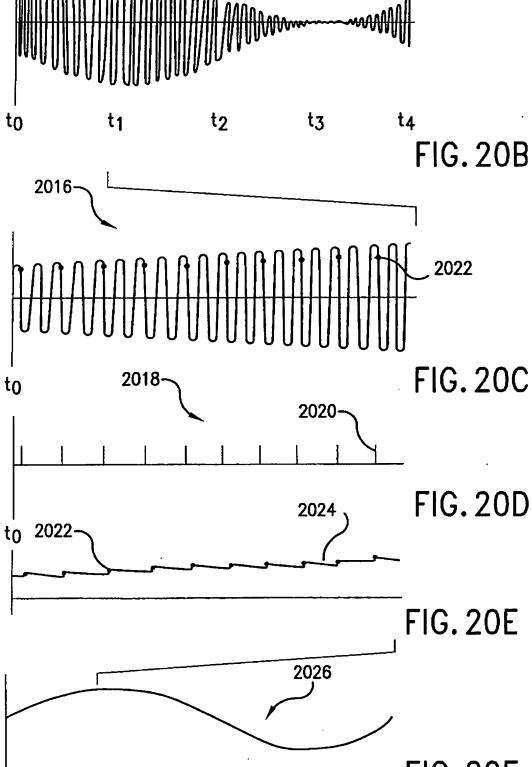
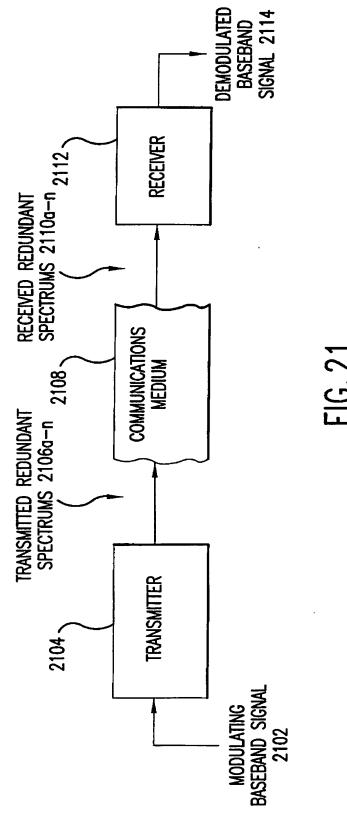


FIG. 20F

Replacement Sheet

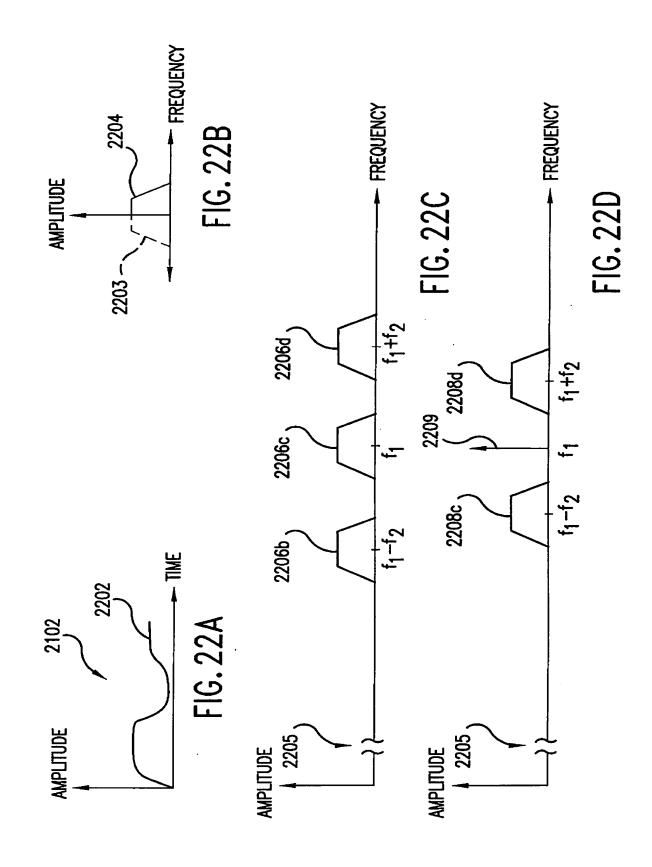
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Tel. No.: 202-371-2600

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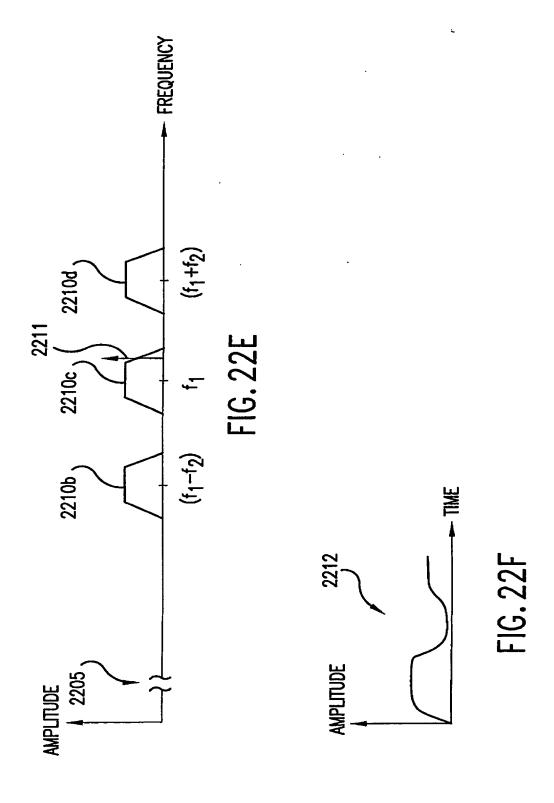


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Frequency Translation

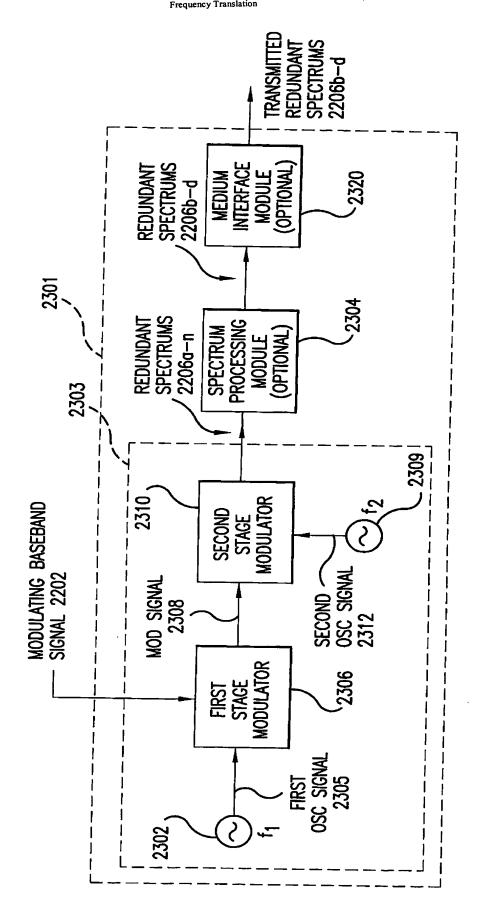
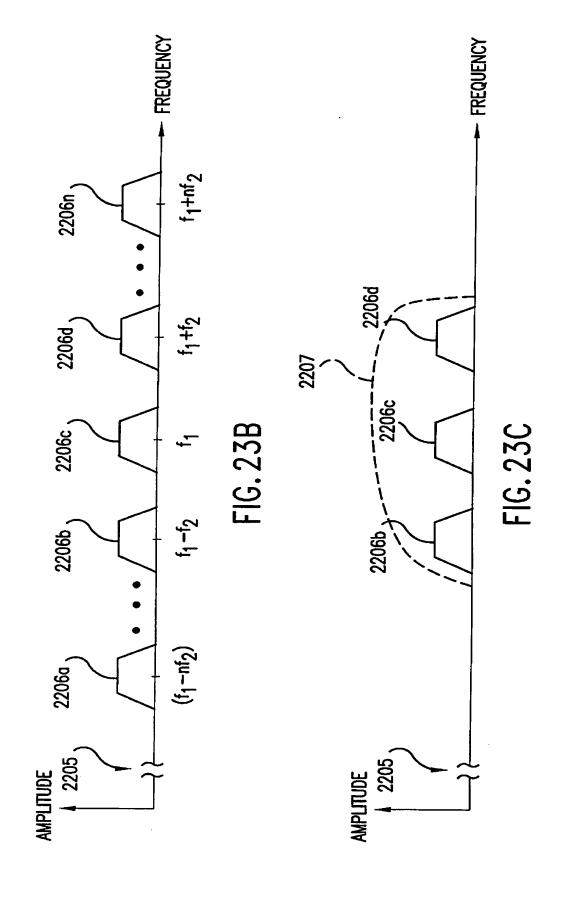


FIG. 23A

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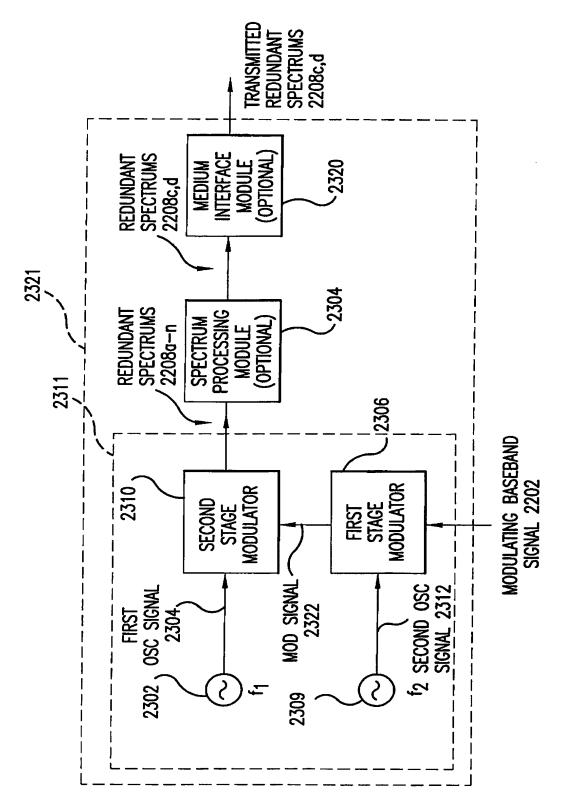
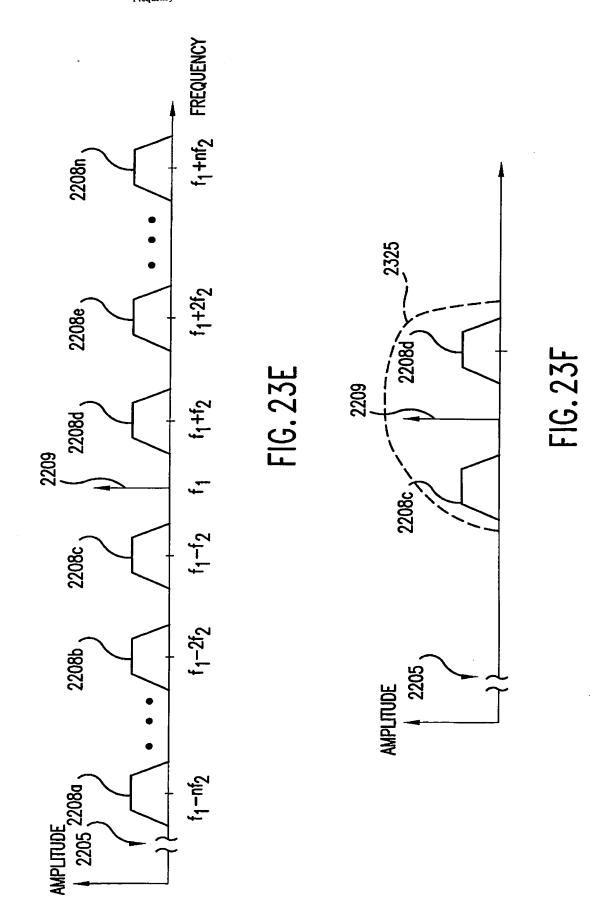
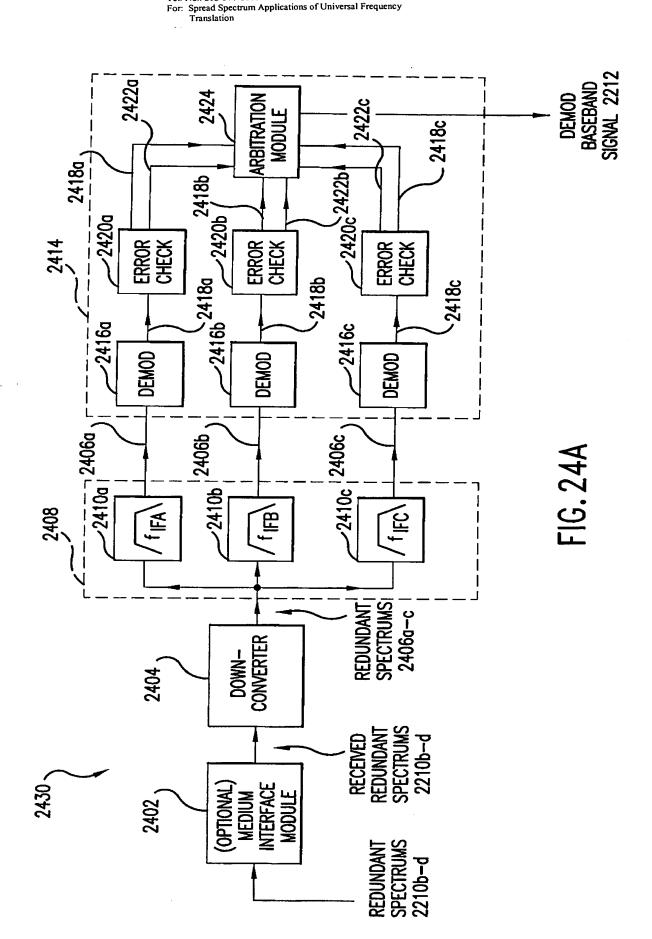


FIG. 23D

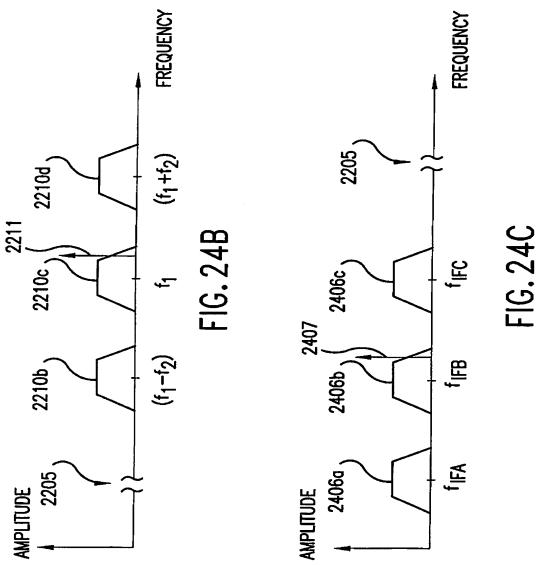
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AMPLITUDE AMPLITUDE - FREQUENCY FIG. 24D FIG. 24E 2407 f FA 厢 2406b AMPLITUDE

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Tel. No.: 202-371-2600

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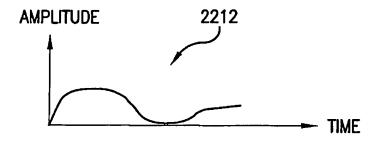
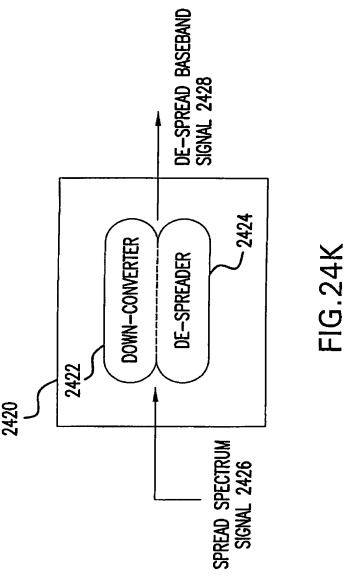


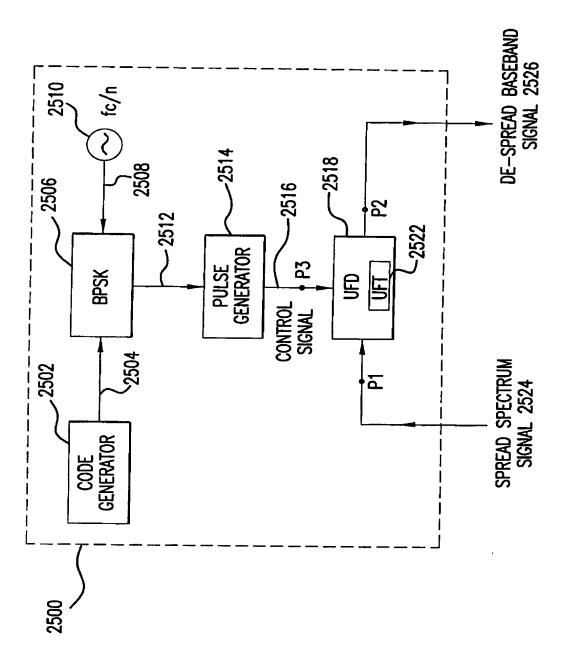
FIG. 24J

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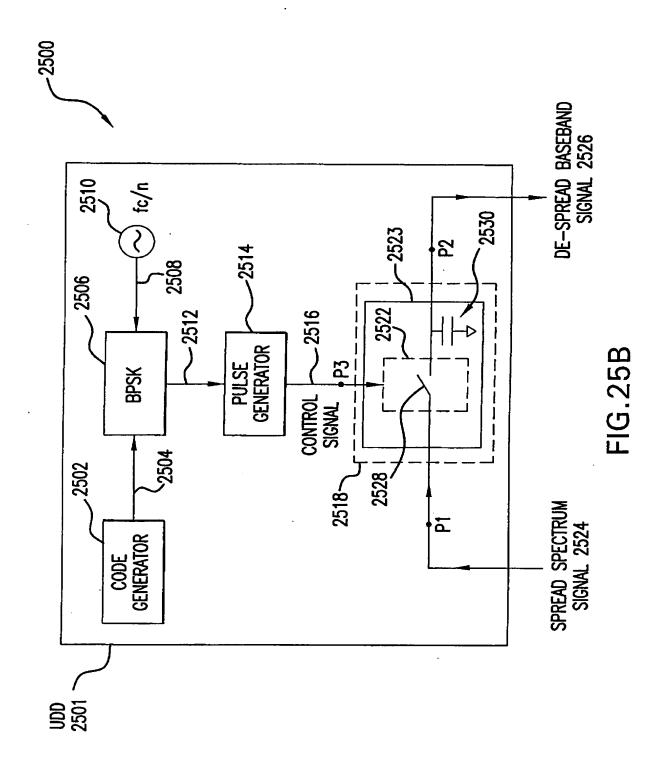
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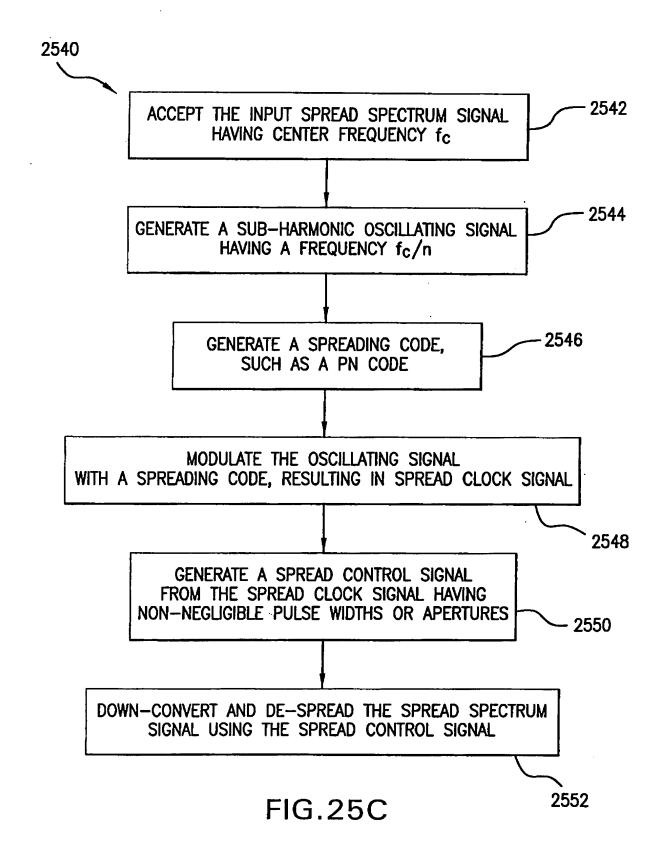


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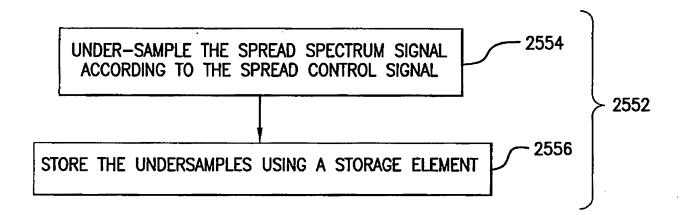


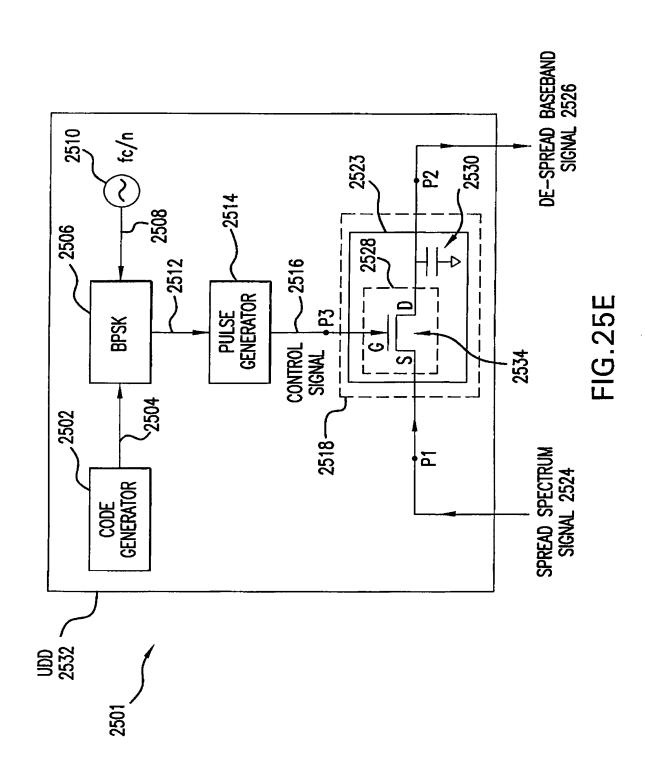
FIG.25D

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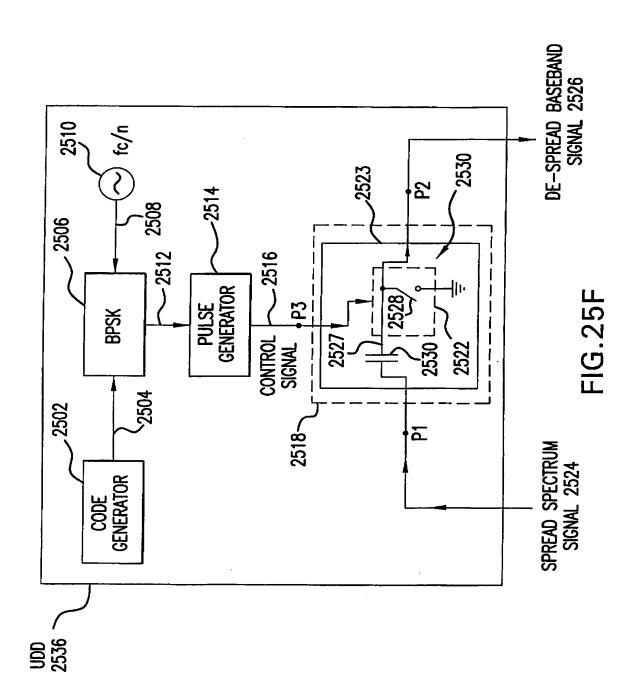
Tel. No.: 202-371-2600

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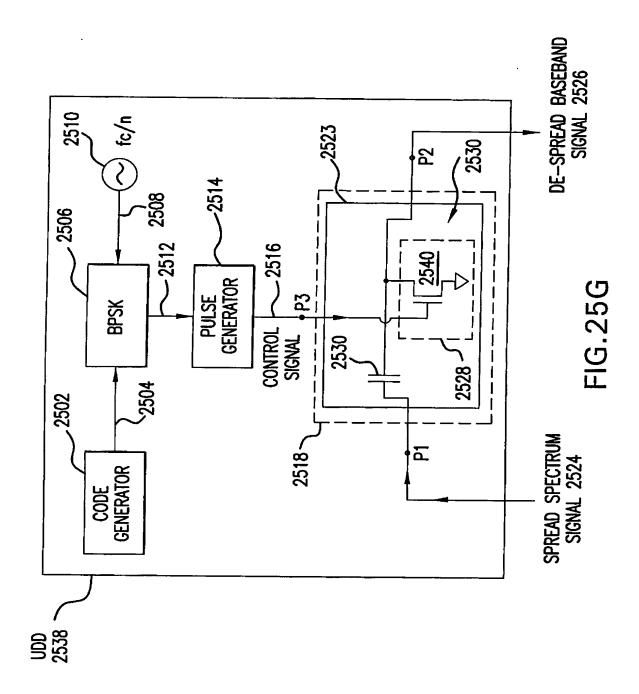


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PERFORM MATCHED FILTER/CORRELATING OPERATION
ON AN APPROXIMATE HALF—CYCLE OF THE INPUT SPREAD

ACCUMULATE THE RESULT OF THE MATCHED FILTER CORRELATION

SPECTRUM SIGNAL

REPEAT STEPS 2562 AND 2564 OVER HALF CYCLES OF THE SPREAD SPECTRUM SIGNAL ACCORDING TO THE SPREAD CONTROL SIGNAL

-2566

2562

2564

2552

FIG.25H

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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency

Translation

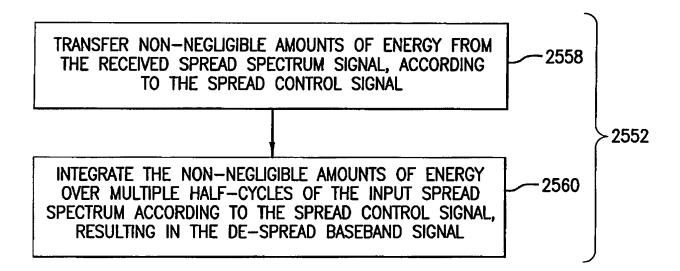


FIG.251

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Appl. No. 09/525,185; Filed: Mar 14, 2000
Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal
Frequency Translation

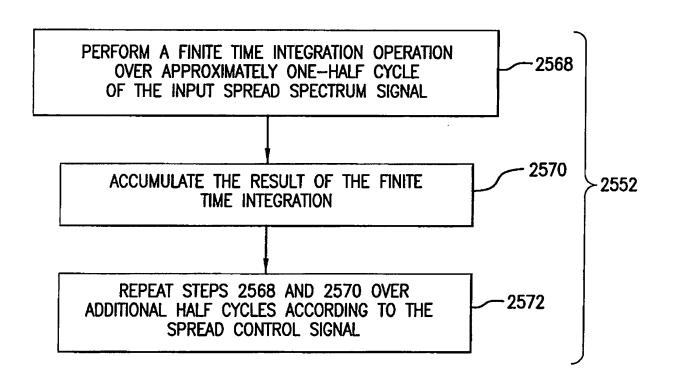


FIG.25J

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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency
Translation

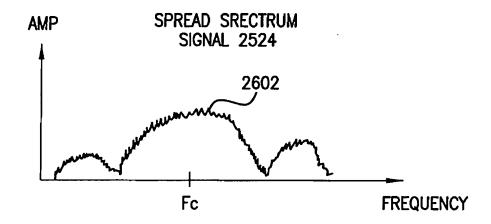
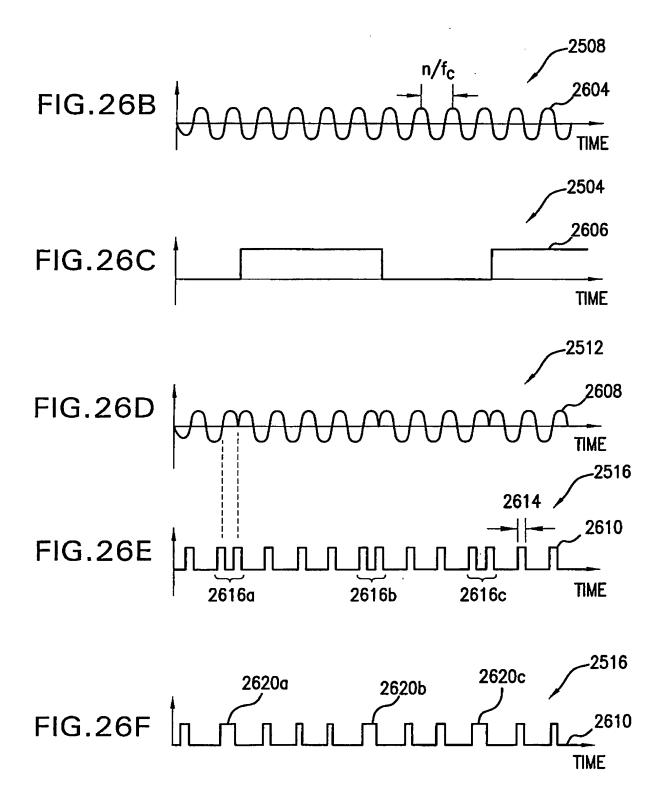


FIG.26A

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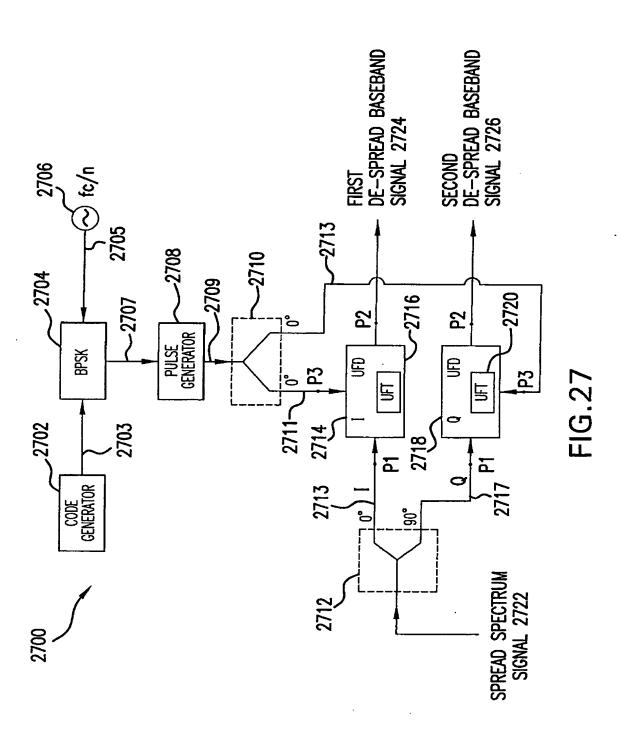
Sheet 47 of 189
Appl. No. 09/525,185; Filed: Mar 14, 2000
Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
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Translation



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For: Spread Spectrum Applications of Universal Frequency Translation



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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency
Translation

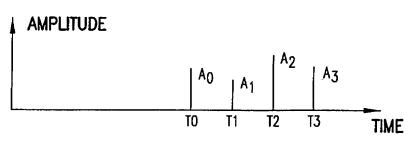
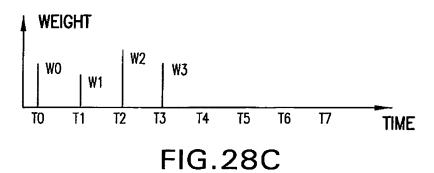


FIG.28A

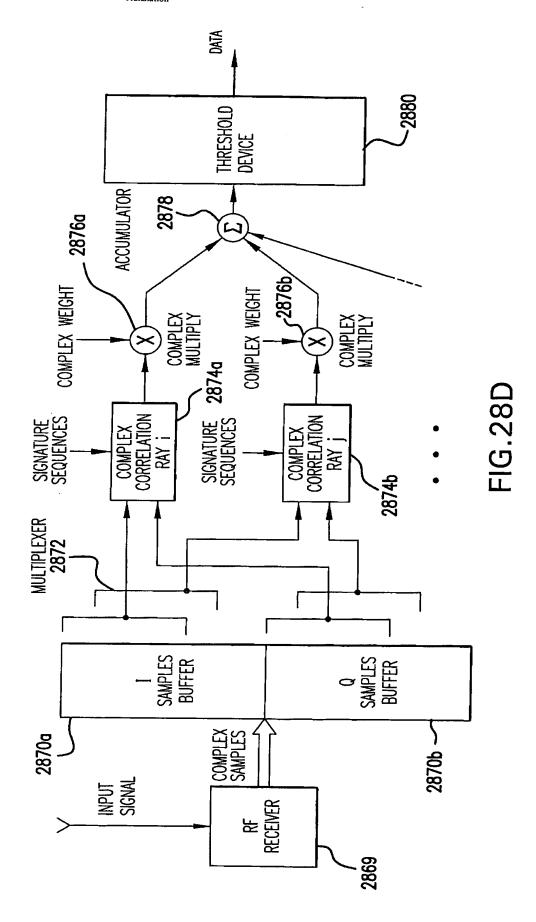




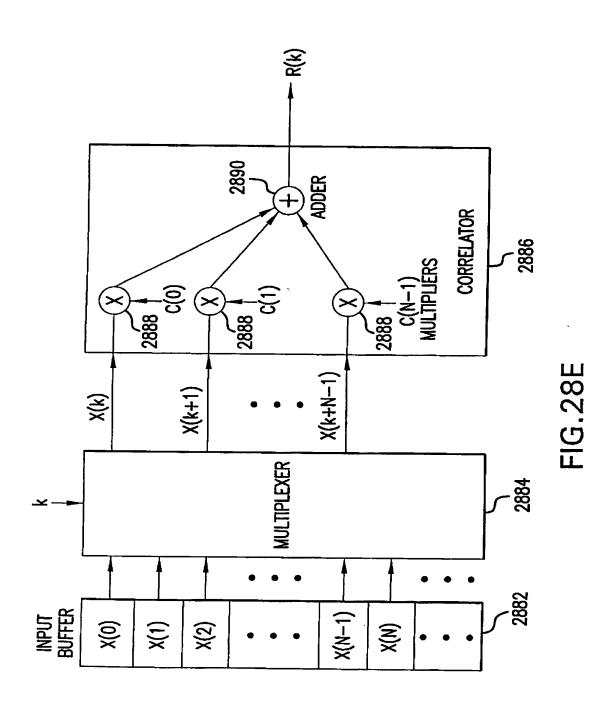
Replacement Sheet Sheet 50 of 189 Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634 Inventors: Sorrells et al.

Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency

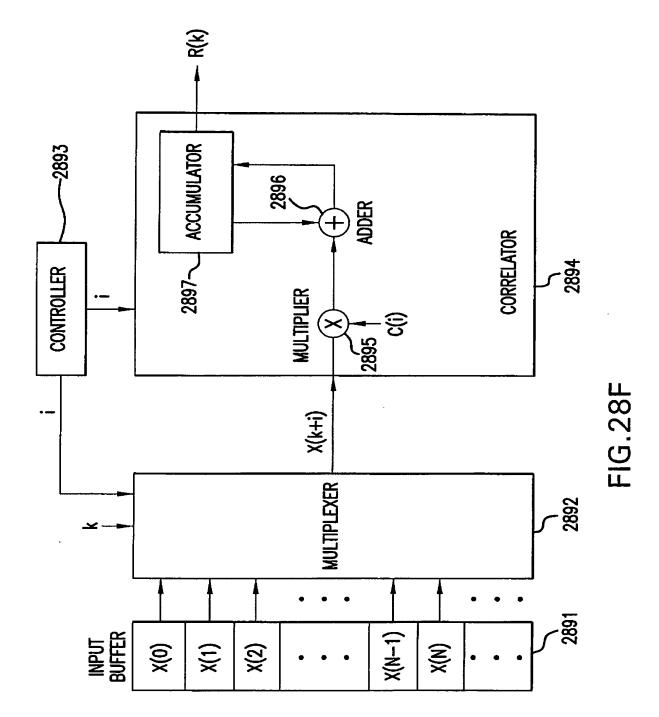
Translation



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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal
Frequency Translation

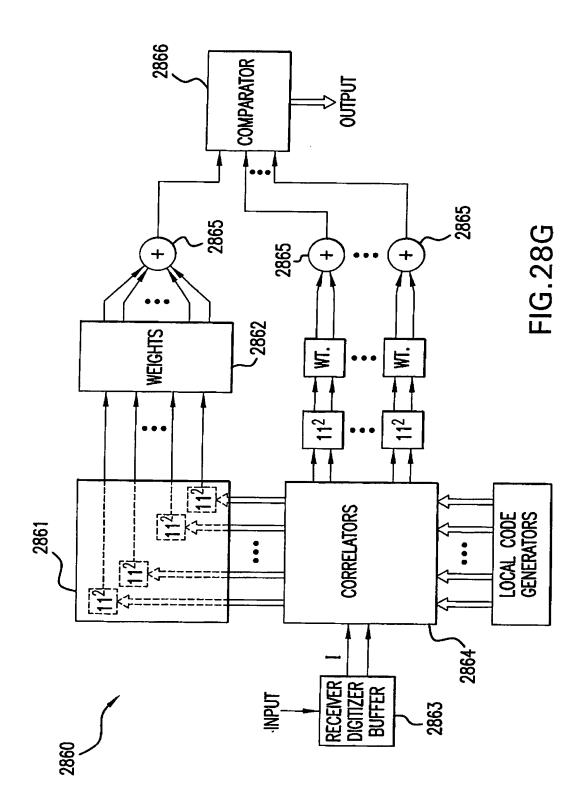


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Appl. No. 09/525,185; Filed: Mar 14, 2000
Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency
Translation

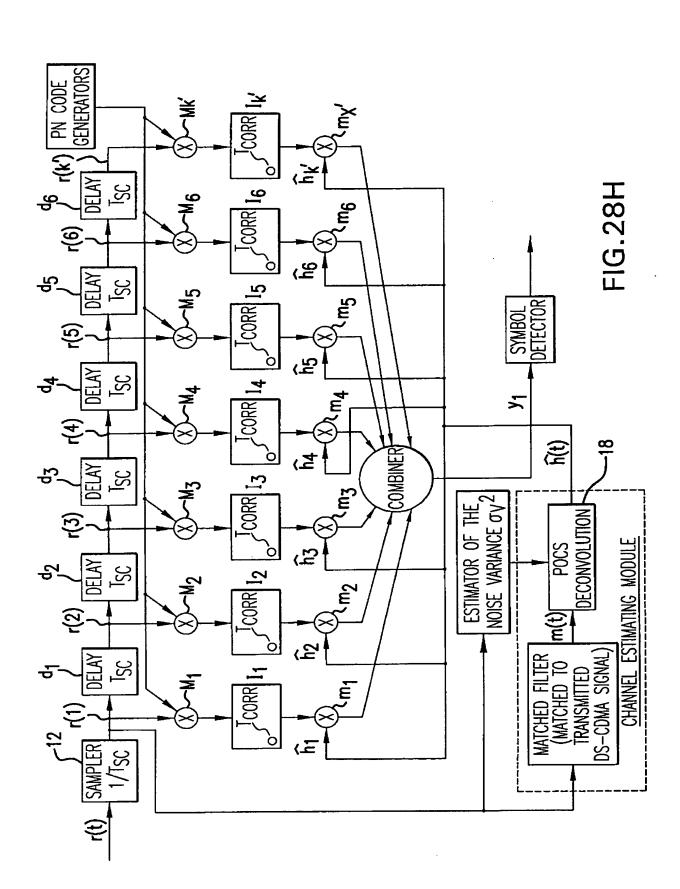


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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency
Translation



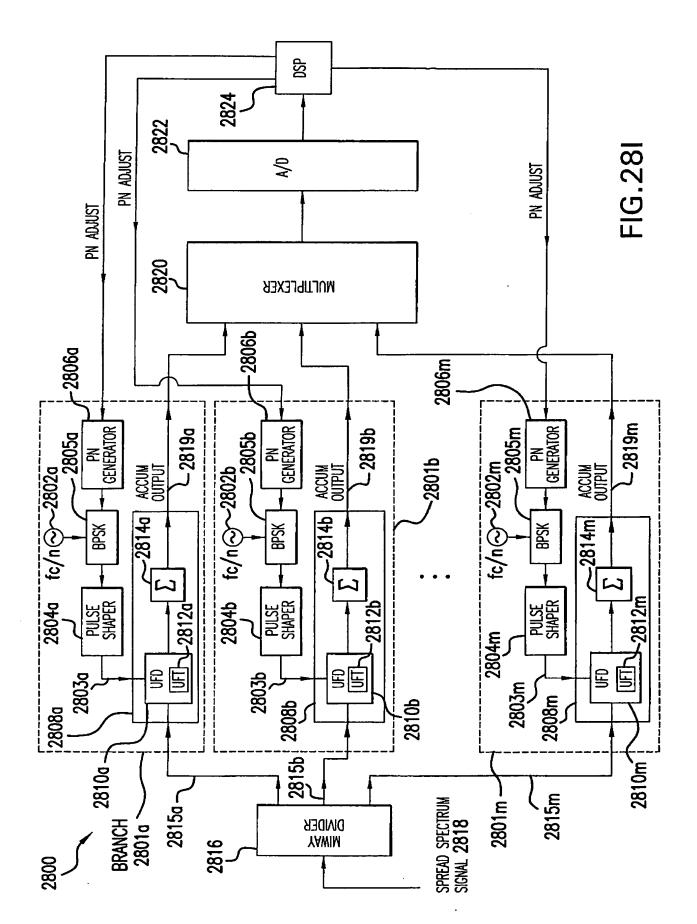
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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
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For: Spread Spectrum Applications of Universal Frequency Translation



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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Translation



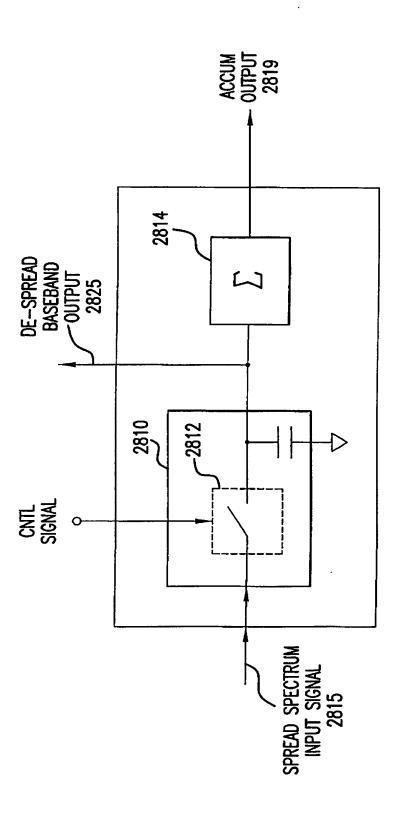
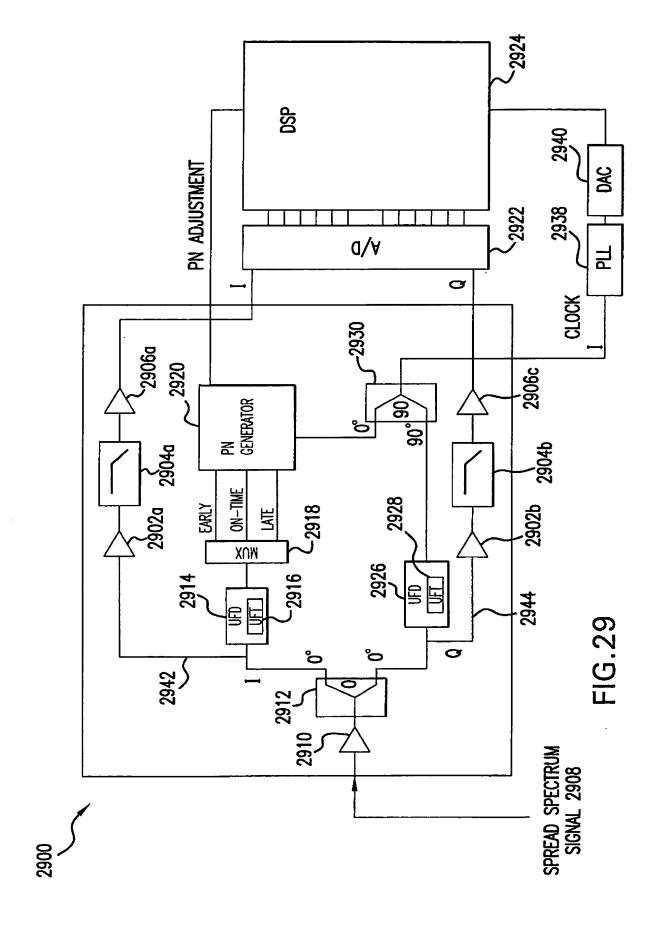


FIG.28J

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Frequency Translation

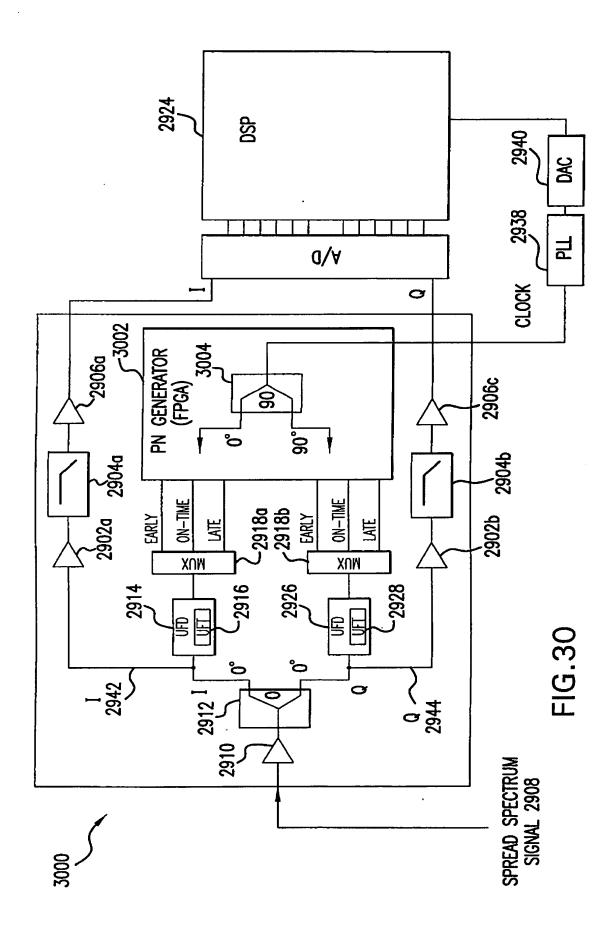


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Inventors: Sorrells et al.

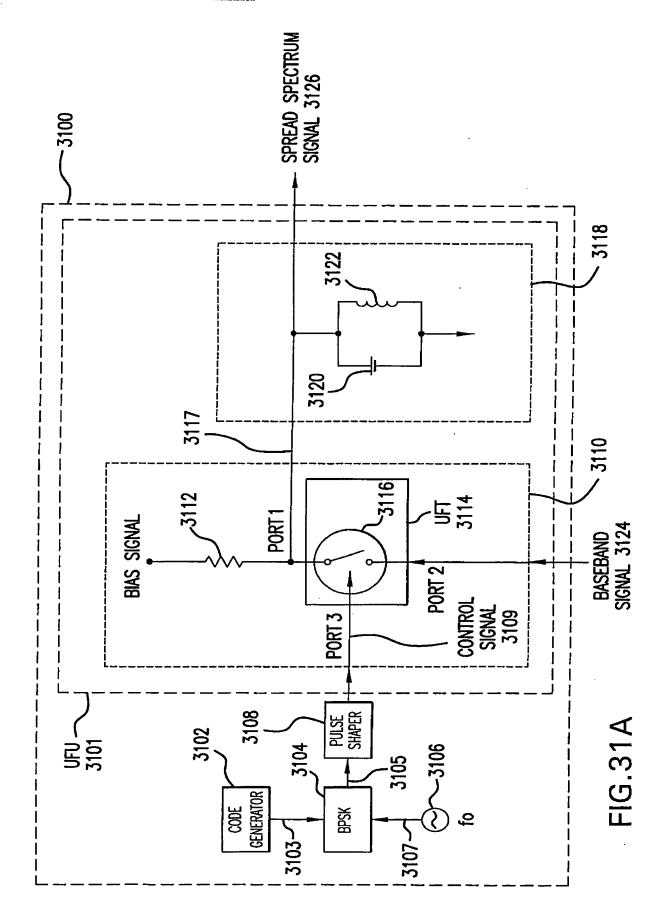
Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency Translation

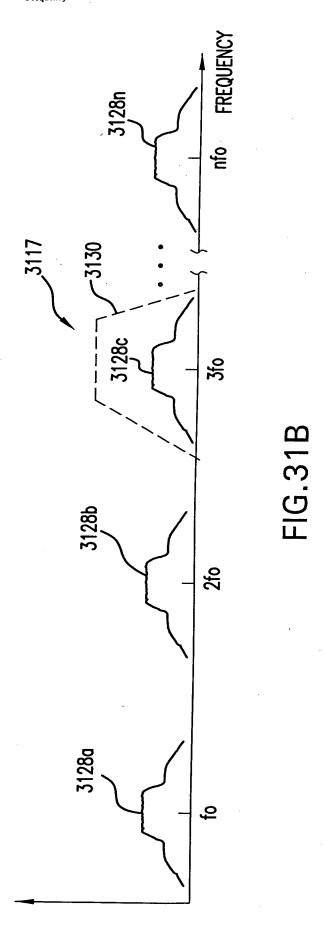


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Inventors: Sorrells et al.
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Inventors: Sorrells et al. Tel. No.: 202-371-2600

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Translation

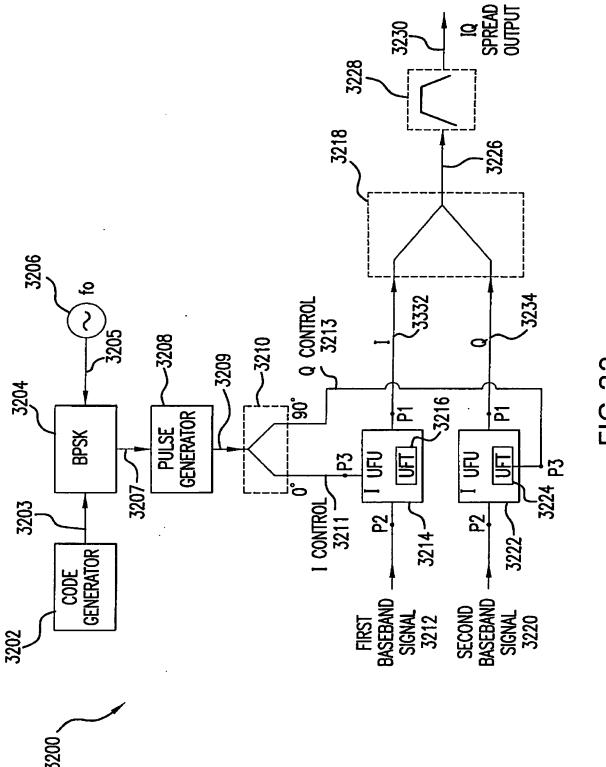
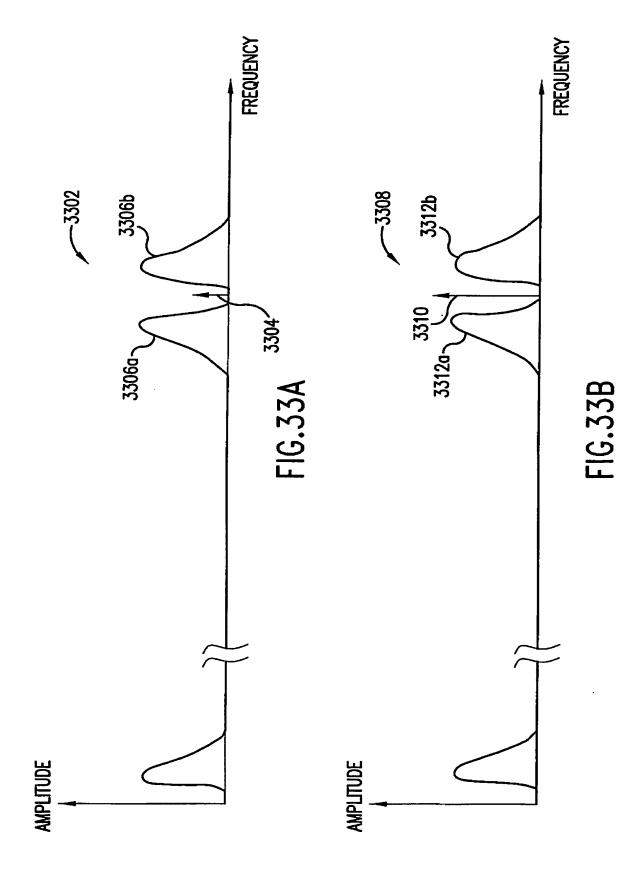


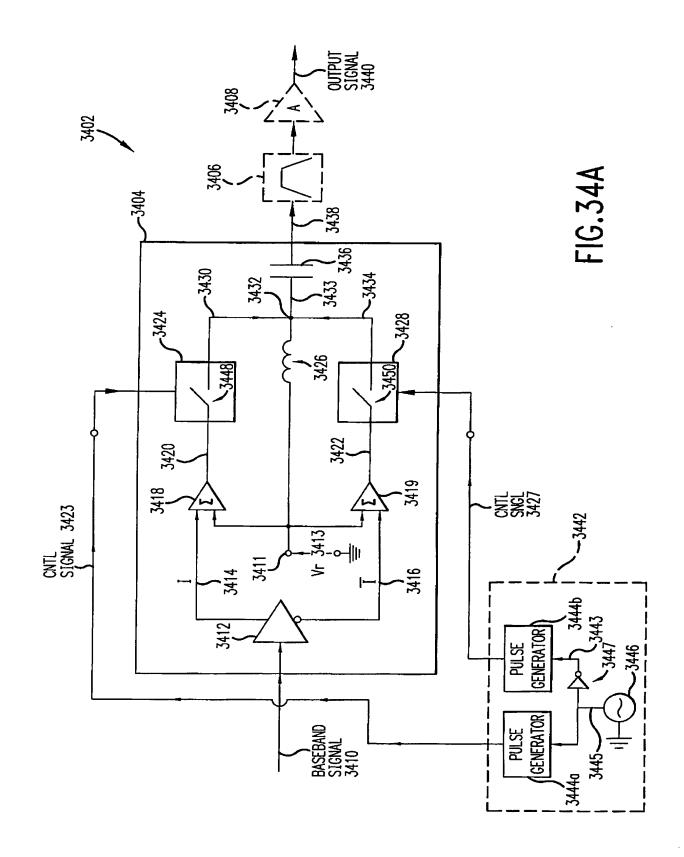
FIG.32

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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Translation

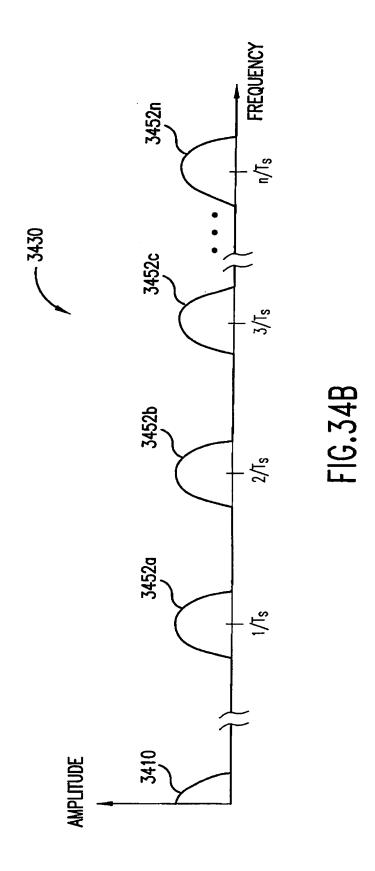


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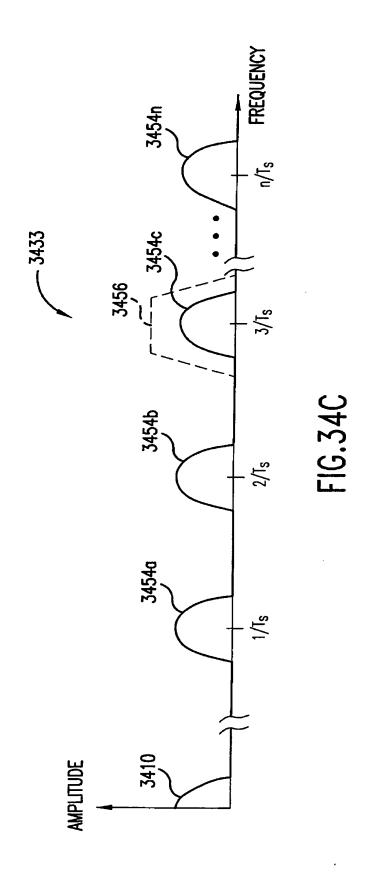
Sheet 63 of 189
Appl. No. 09/525,185; Filed: Mar 14, 2000
Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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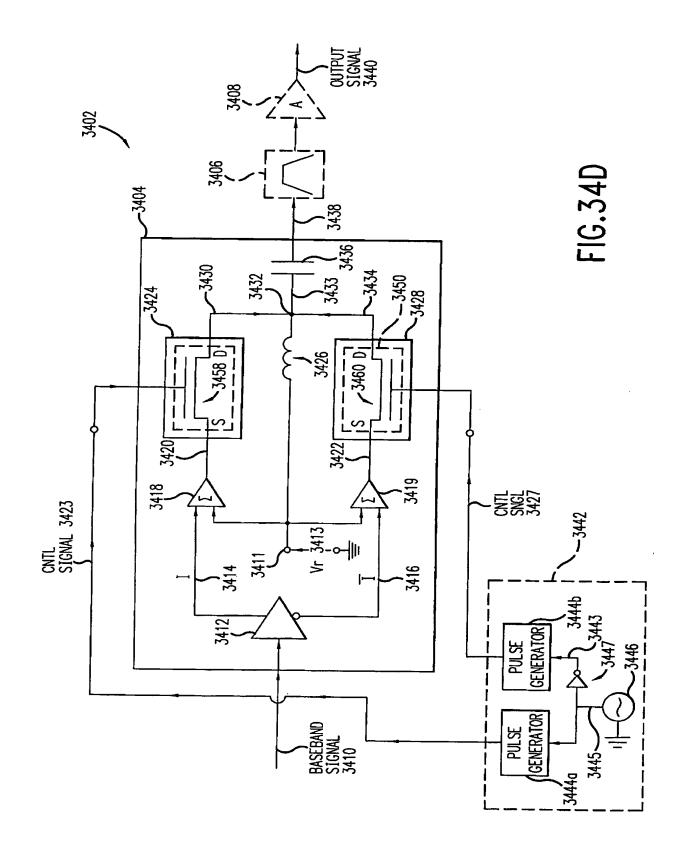
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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency
Translation



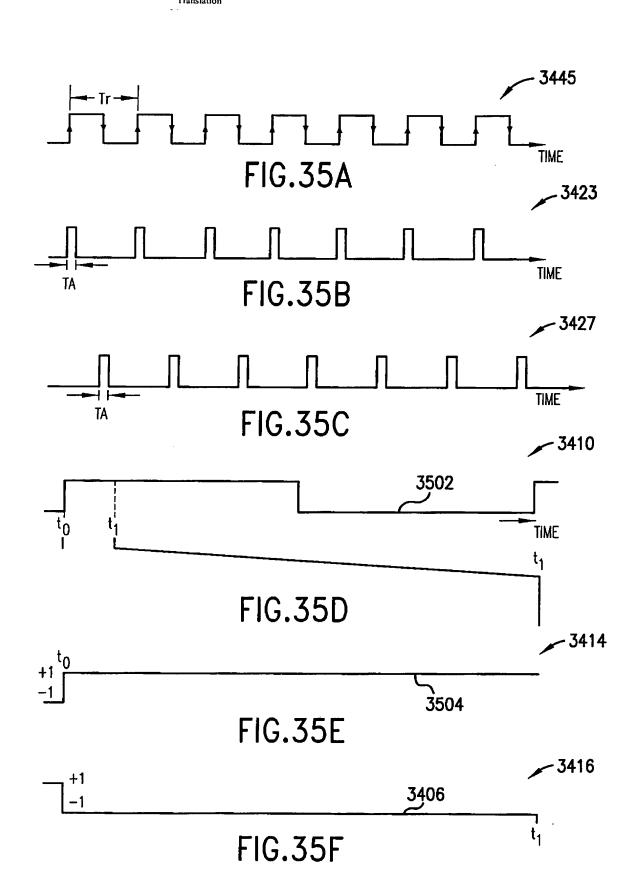
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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Frequency Translation



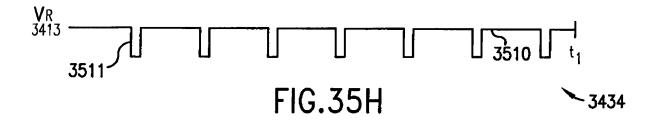
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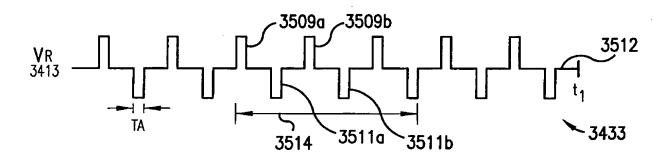
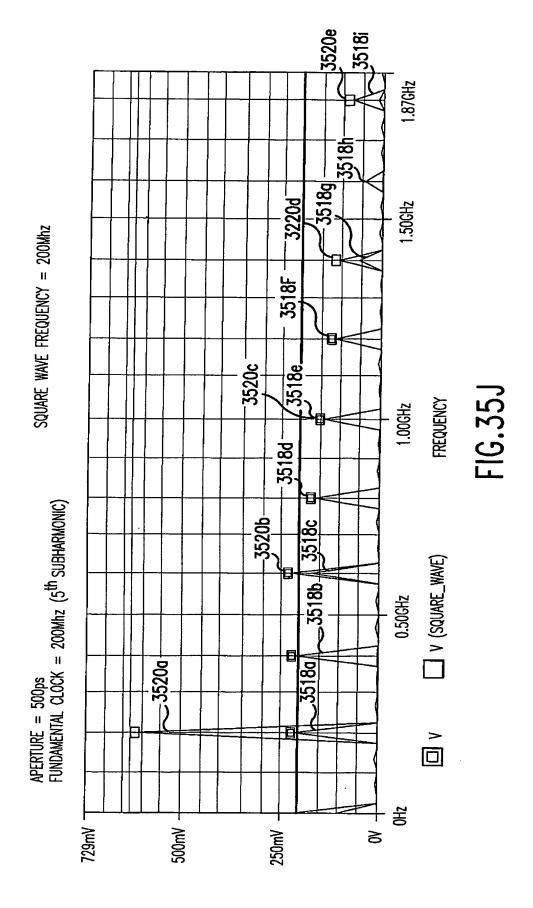
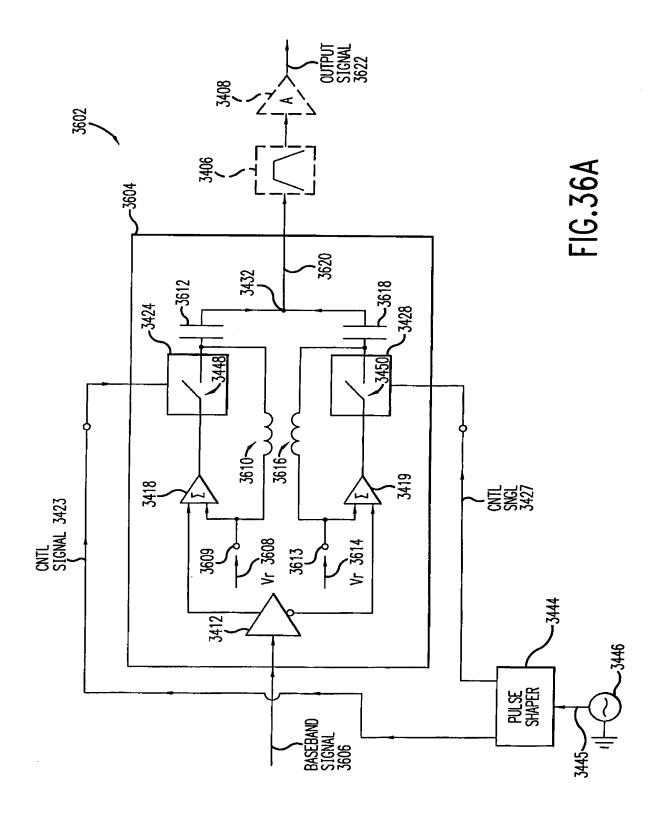


FIG.351

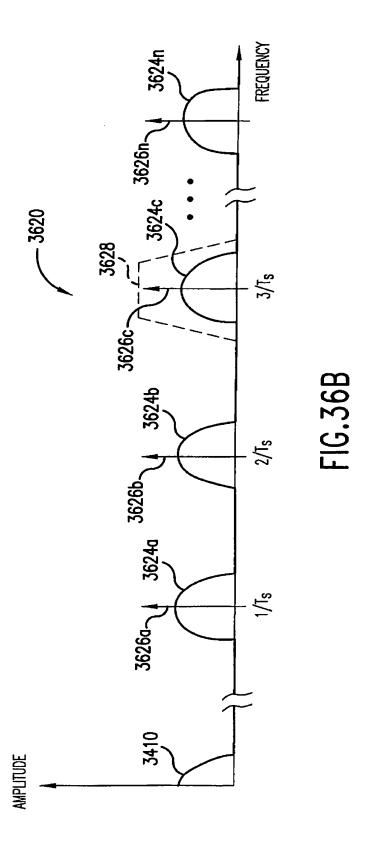
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Dkt No. 1744.0450002; Group Unit: 2634
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Tel. No.: 202-371-2600
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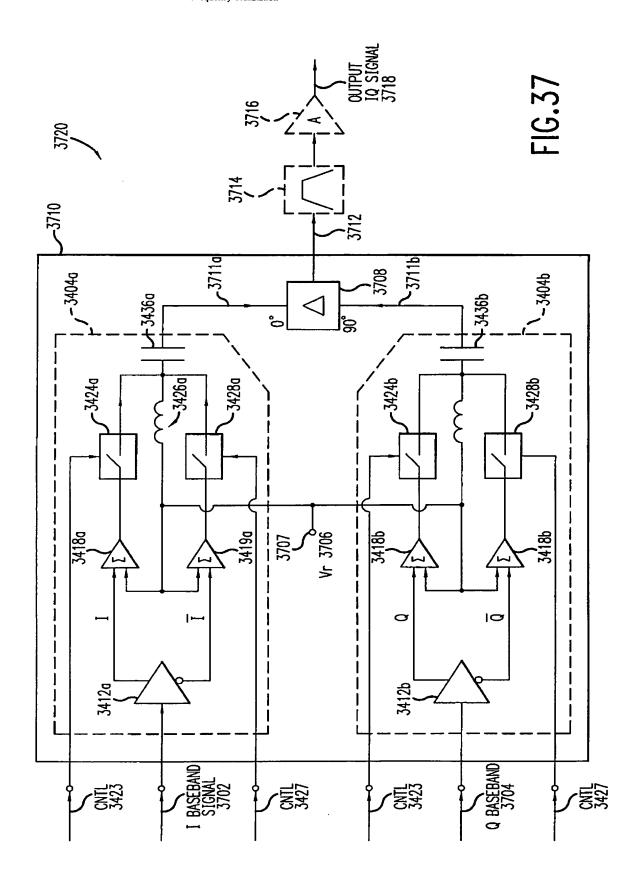
Replacement Sheet
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Appl. No. 09/525,185; Filed: Mar 14, 2000
Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Translation



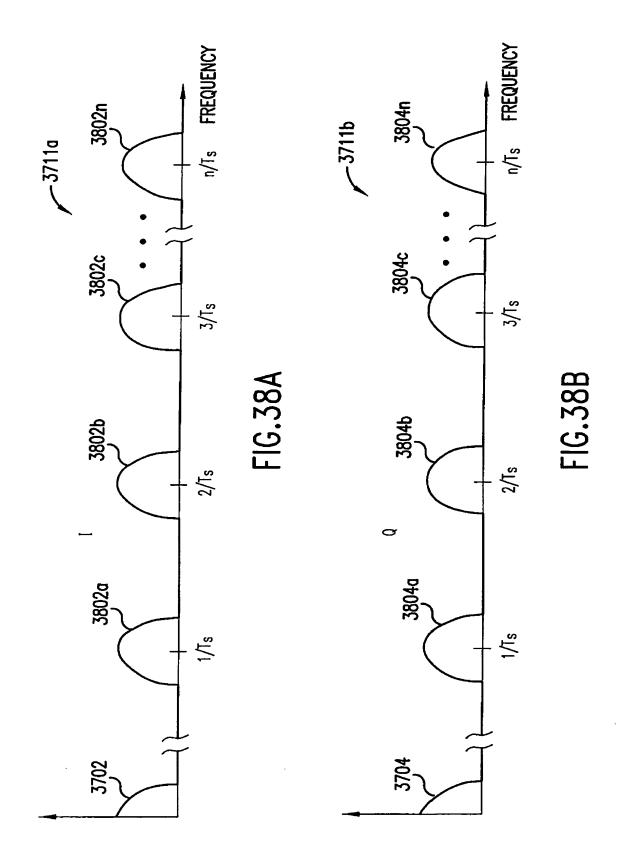
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Inventors: Sorrells et al. Tel. No.: 202-371-2600

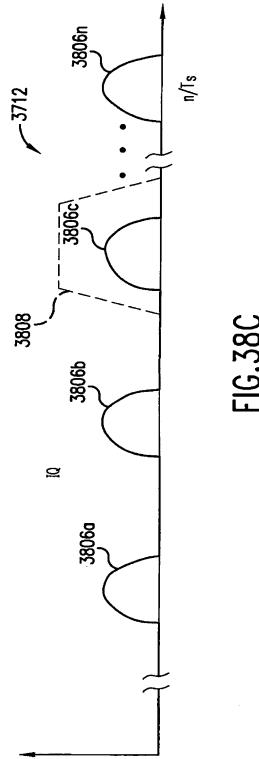
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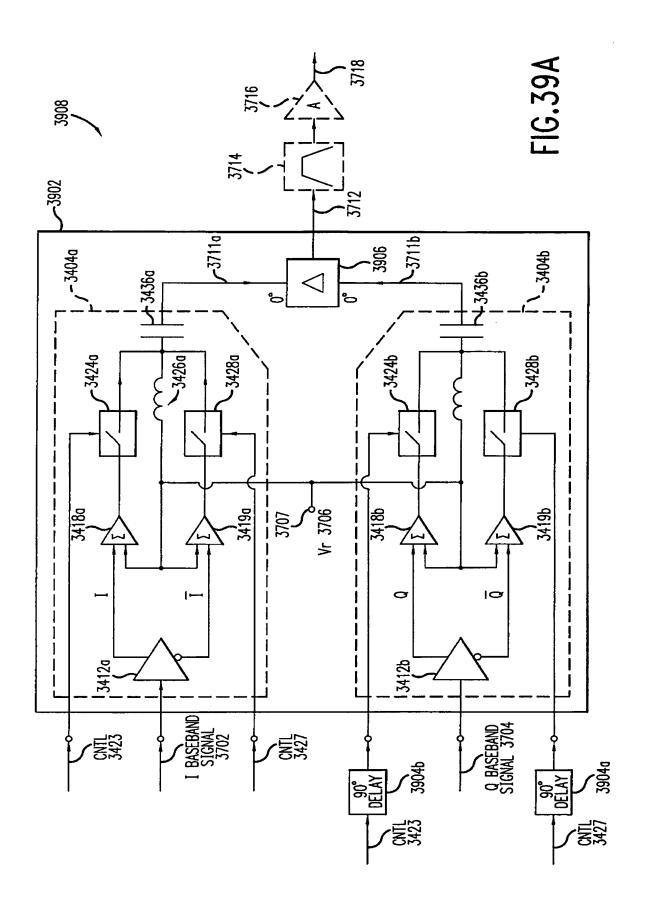
Dkt No. 1744.0450002; Group Unit: 2634

Inventors: Sorrells et al.

Tel. No.: 202-371-2600

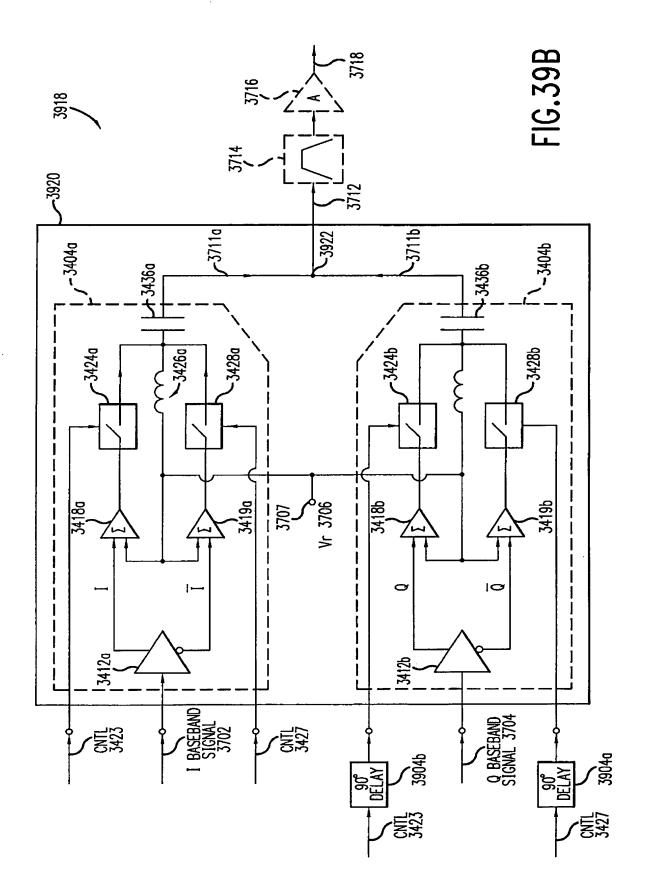
For: Spread Spectrum Applications of Universal

Frequency Translation



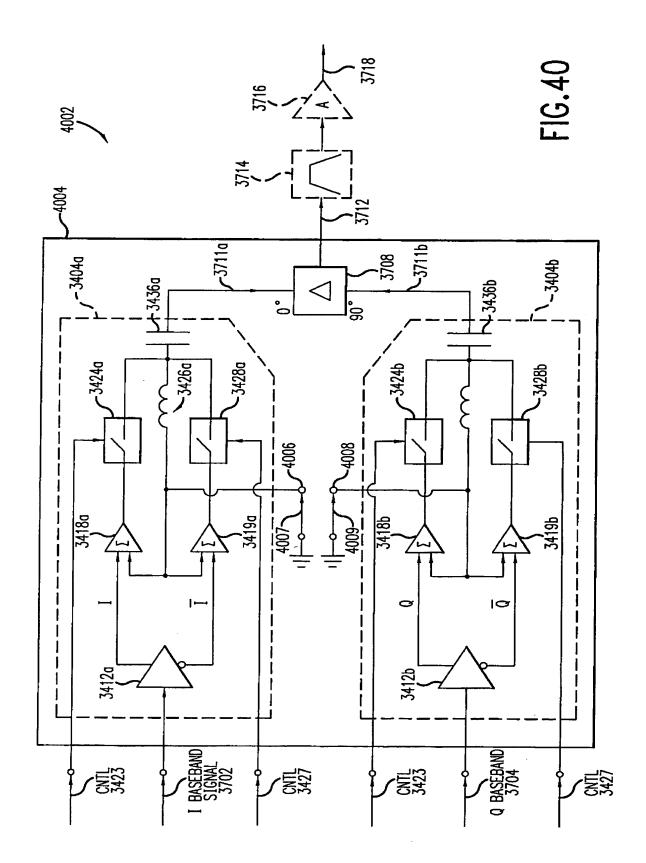
Replacement Sheet
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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600

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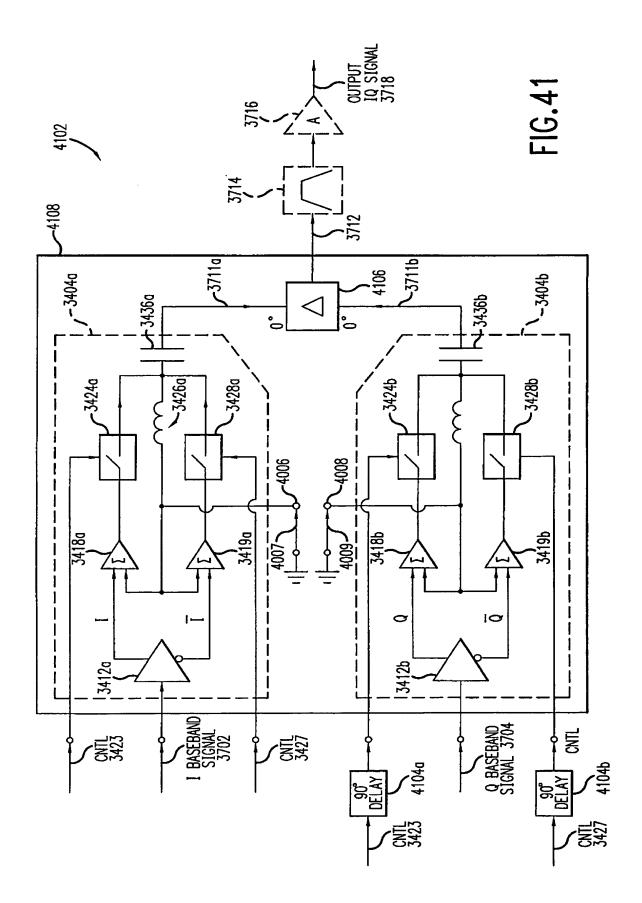


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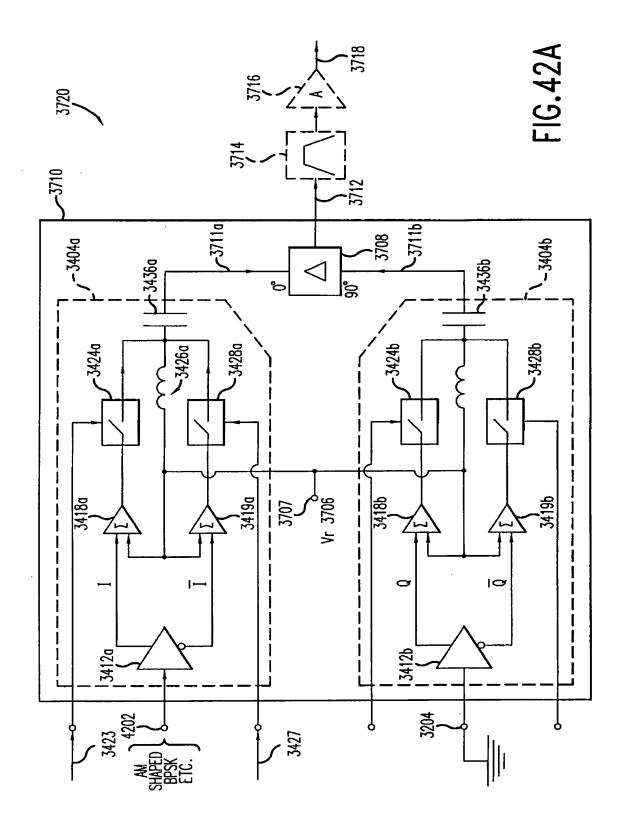
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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Frequency Translation

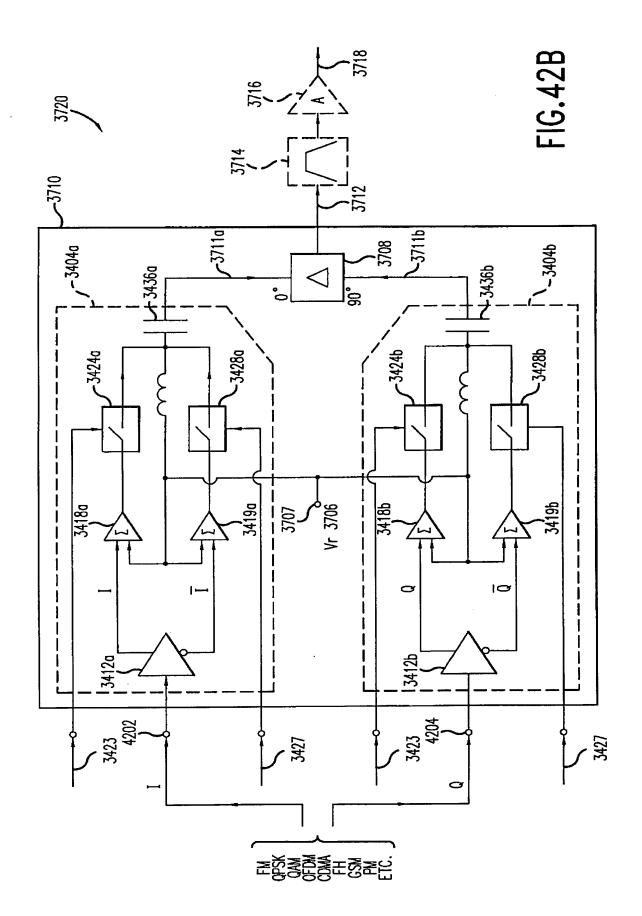


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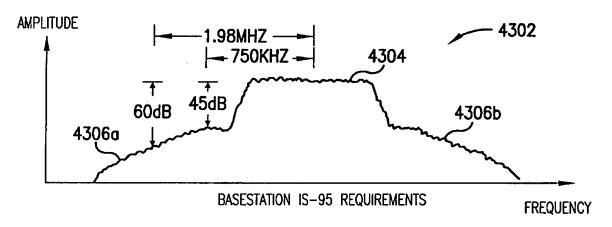


FIG.43A

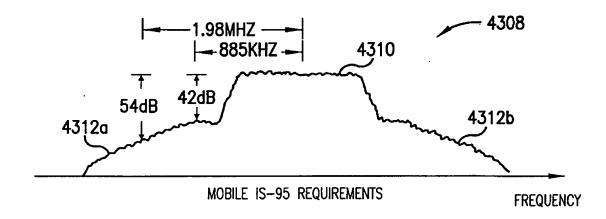
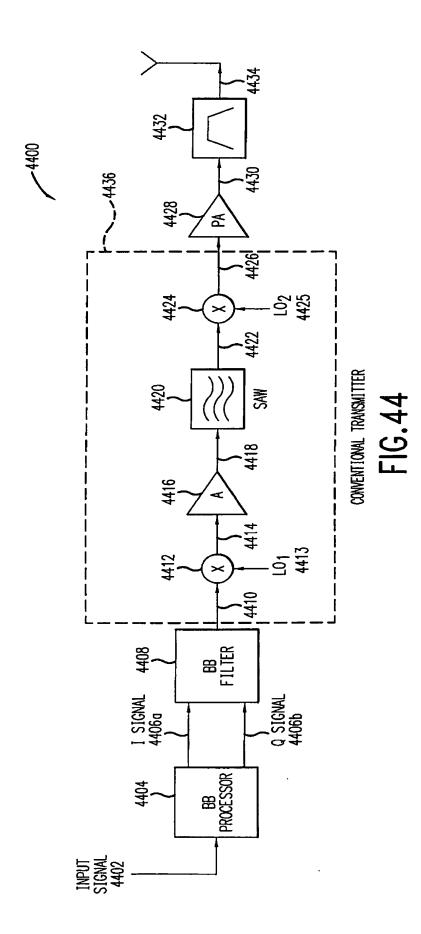


FIG.43B

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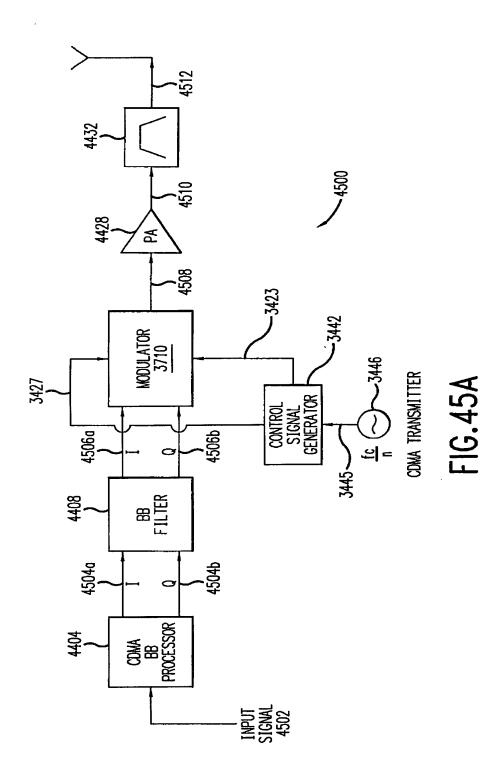
Appl. No. 09/525,185; Filed: Mar 14, 2000
Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency
Translation



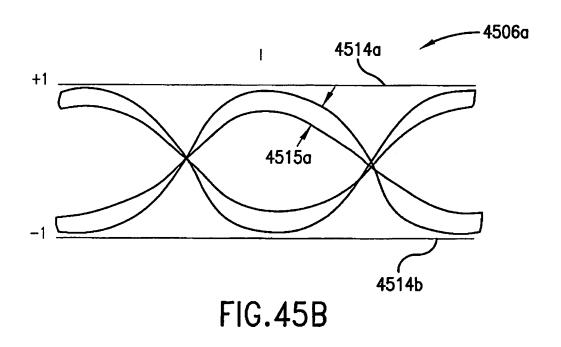
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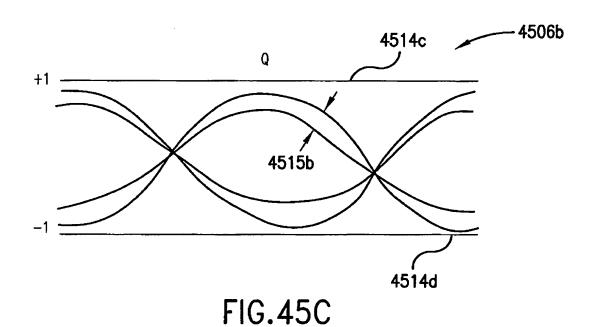
Tel. No.: 202-371-2600

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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Translation

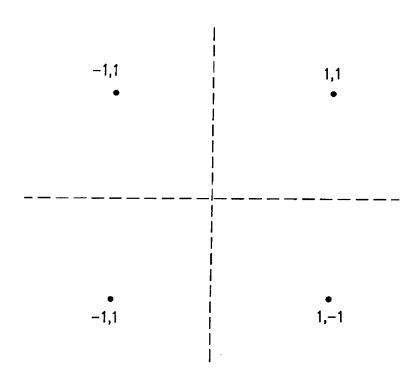
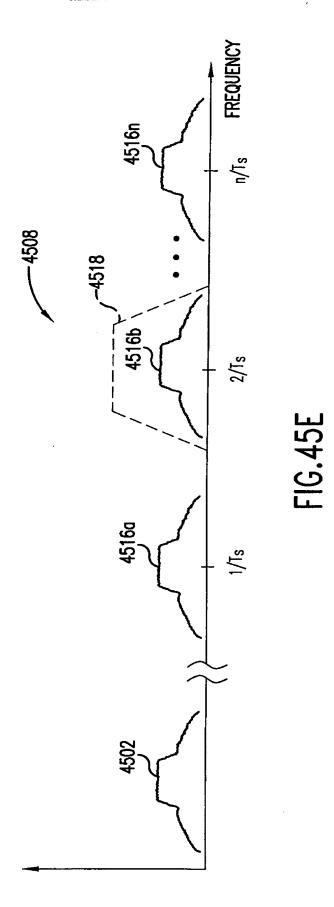


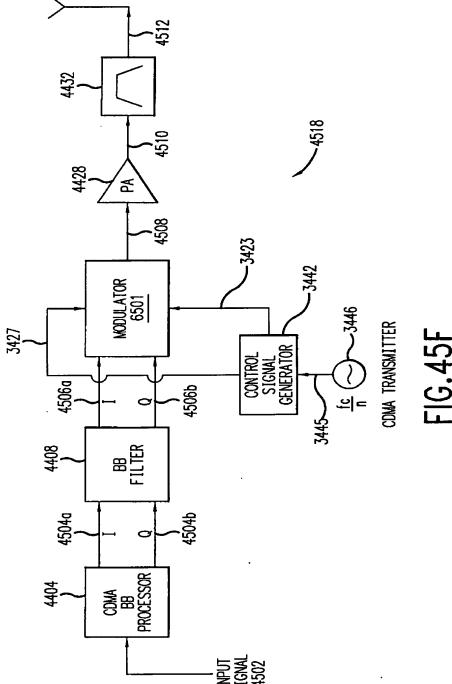
FIG.45D

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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency Translation



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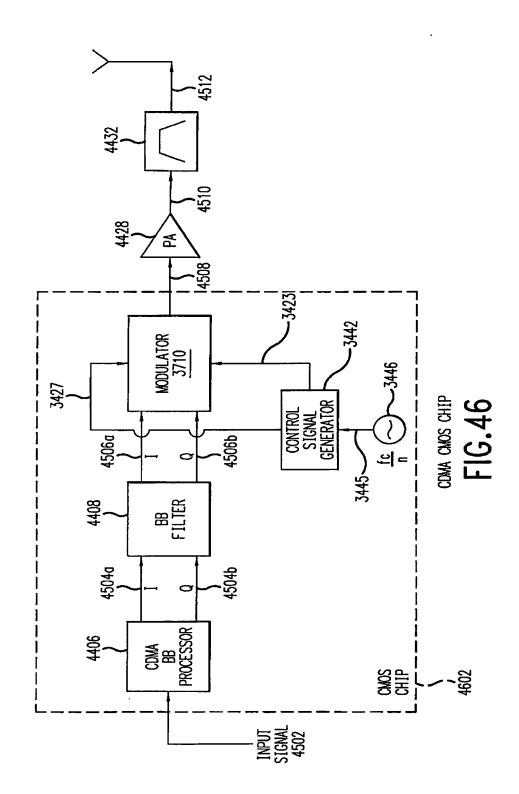
Dkt No. 1744.0450002; Group Unit: 2634

Inventors: Sorrells et al.

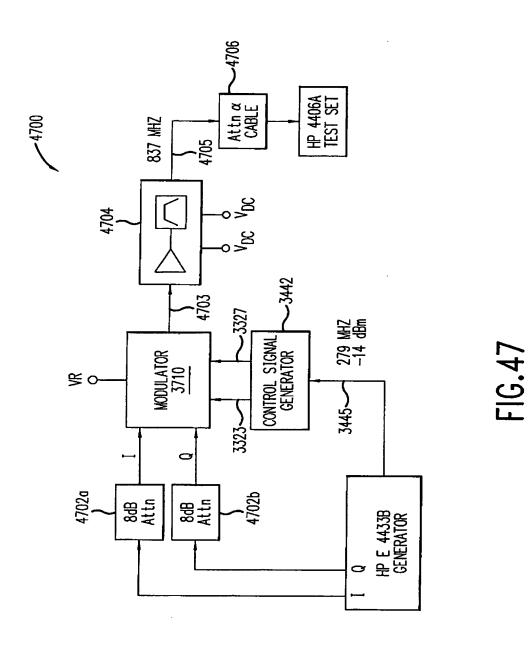
Tel. No.: 202-371-2600

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Translation



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4802	BASE STATION				
	RHO	0.9970			
	EVM	5.51%			
	PHASE ERROR	1.80°			
	MAGNITUDE ERROR	4.53%			
	CARRIER INSERTION	-37.91 dB			
	PA POWER OUT	28.06 dBm			

FIG.48

	FREQUENCY (MHZ	z) (MOBILE STATION	1)	
	LOW	MIDDLE	HIGH	V
RHO	0.9892	0.9969	0.9892	1
EVM	10.39%	5.54%	10.39%	1
PHASE ERROR	4.47°	2.24°	4.08°	1
MAGNITUDE ERROR	6.84%	4.21%	8.27%	
CARRIER INSERTION	-40.15 dB	-44.58 dB	-35.27 dB	
PA POWER OUT	27.36 dBm	28.11 dBm	27.55 dBm	1

FIG.49

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Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency Translation

(cdma0ne	Measure
Base Ch Freq 837.000 Mod Accuracy (Rh0)	MHz PN Ofs0 x 64[chips] IS-95A Averages:10	Channel Power
Rho	I/Q Measured Compl Vector	Mod Accuracy (Rho)
0.9970 Time Offset -6661.63 us		Code Domain
Freq Error -44.32 Hz		Spur Close
Carrier FT -37.91 dB EVH		Spectrum (Freq Domain)
5.51 % Mag Error 4.53 %		Waveform (Time Domain)
Phase Error 1.80 Deg	Sync Esec	ACPR
Printing to file-Plea	ase wait	

BASE STATION CONSTELLATION FOR PILOT CHANNEL TEST

FIG.50

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Translation

<i>ⓑ</i>		cdma0ne					Veiw/Trace
Base Ch Freq 837.000 Mod Accuracy (Rh0)	MHz P IS-95		Err ips] rerages:8]		I/Q Measured Compl. Constln
Base 20.32 dB							I/Q Error
Rho 0.9967		I/Q Measured	I Compi Constlr	1			(Quad Veiw)
Time Offset 11678.65 us Freq Error -45.70 Hz Carrier FT	0	E	4				
-33.78 dB EVH 5.78 % Mag Error 4.73 % Phase Error	y	Ð	85			•	
1.90 Deg	S	ync Esec	Į.				
Printing to file-Ple	ase wo	oit .					

BASE STATION SAMPLED CONSTELLATION

FIG.51

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For: Spread Spectrum Applications of Universal
Frequency Translation

(hp)	cdmaOne		Radio
Mobile Ch Freq 837.000 MHz PN Ofs0 x 64[chips] Mod Accuracy (Rho) IS-95A Averages:10			Band IS-95A
Rho			Device Base Mobile
0.9969 Time Offset	I/Q Measured Compl Vector		
-12450.64 us Freq Error -46.82 Hz			
Carrier FT -44.58 dB EVH			
5.54 % Mag Error 4.21 %			
Phase Error 2.24 Deg Printing to file—Plea	Sync Esec		
Frinting to the Plet	196 MAIL		

MOBILE STATION CONSTELLATION FOR ACCESS CHANNEL TEST **FIG.52**

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Translation

(hp)	cdma0ne	Veiw/Trace
Mobile Ch Freq 837.000 Mod Accuracy (Rho)	MHz PN Ofs0 x 64[chips] IS-95A Averages:2	i/Q Measured Compl. Constin
Rho 0.9970 Time Offset -12448.59 us Freq Error -46.85 Hz Carrier FT -44.18 dB EVH 5.51 % Mag Error 4.19 % Phase Error 2.23 Deg	I/Q Measured Compl Constin	1/Q Error (Quad-Veiw)
Printing to file-Plea	ise wait	

MOBILE STATION SAMPLED CONSTELLATION

FIG.53

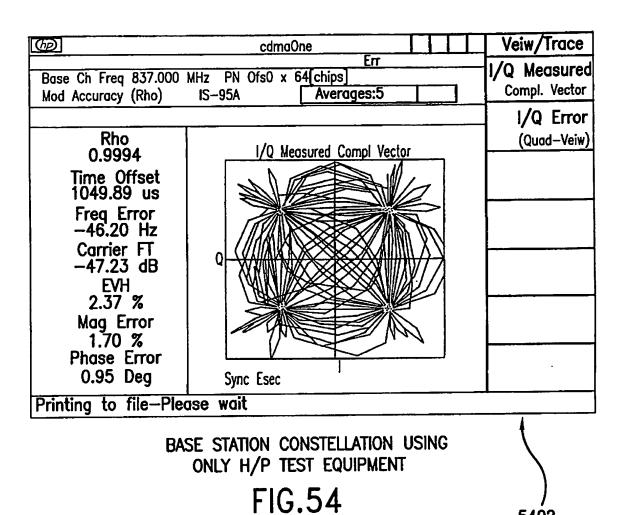
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Frequency Translation

(hp)	cdma0ne	Measure
Mobile Ch Freq 837.000 Mod Accuracy (Rho)	MHz PN OfsO x 64[chips] IS-95A Averages:4	Channel Power
Rho	I/Q Measured Compl Vector	Mod Accuracy (Rho)
0.9991 Time Offset 5482.51 us	Ty medalied compil vector	Code Domain
Freq Error -46.10 Hz Carrier FT		Spur Close
-47.18 dB EVH		Spectrum (Freq Domain)
2.98 % Mag Error 2.18 %		Waveform (Time Domain)
Phase Error 1.28 Deg	Sync Esec	ACPR
Printing to file-Plea	ase wait	

MOBILE CONSTELLATION USING ONLY H/P TEST EQUIPMENT

FIG.55

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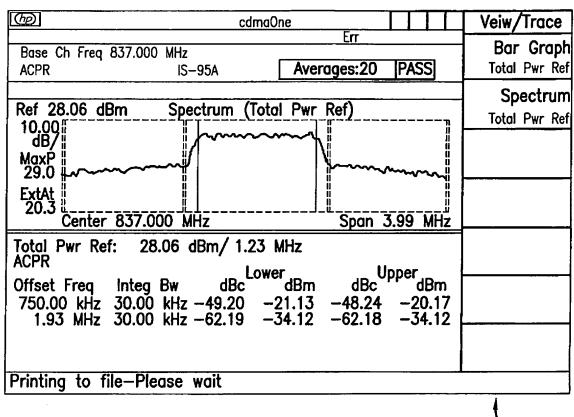


FIG.56

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Translation

CdmaOne cdmaOne	Measure
Base Ch Freq 837.000 MHz ACPR IS-95A Averages:12 PASS	Channel Power
Ref 28.08 dBm	Mod Accuracy (Rho)
dB/ MaxP 29.0	Code Domain
ExtAt 20.3 Center 837.000 MHz	Spur Close
Total Pwr Ref: 28.08 dBm/ 1.23 MHz	Spectrum (Freq Domain)
ACPR Lower Offset Freq Integ Bw dBc dBm dBc dBm 750.00 kHz 30.00 kHz -49.23 -21.15 -48.20 -20.12 1.93 MHz 30.00 kHz -62.15 -34.07 -62.14 -34.06	Waveform (Time Domain)
	ACPR
Printing to file—Please wait	

BASE STATION SPECTRAL RESPONSE WITH MASK

FIG.57

Replacement Sheet

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Frequency Translation

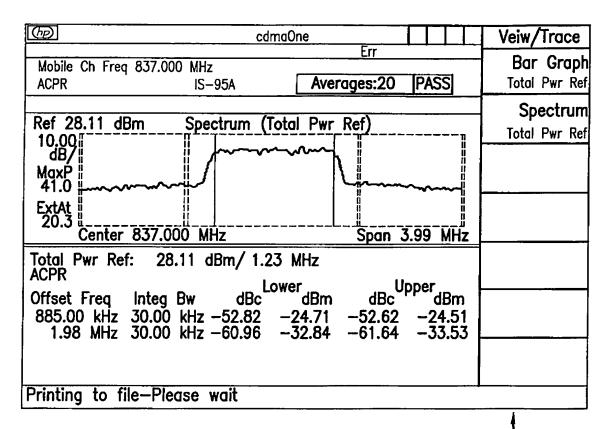


FIG.58

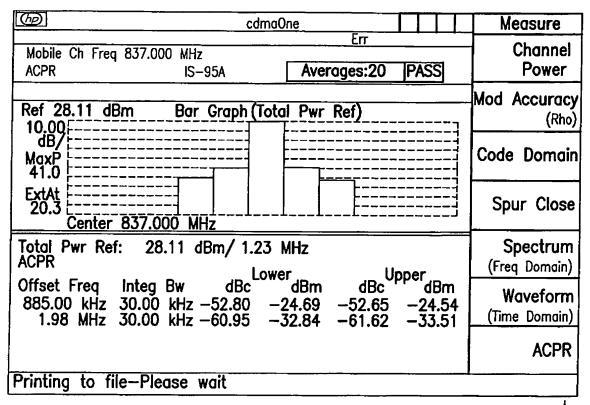
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Inventors: Sorrells et al. Tel. No.: 202-371-2600

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Translation



MOBILE STATION SPECTRAL RESPONSE WITH MASK

FIG.59

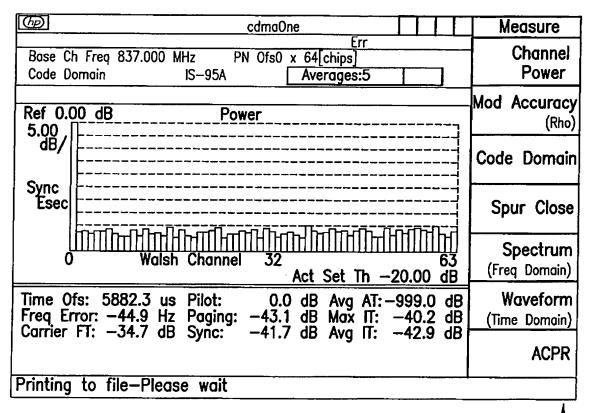
Replacement Sheet

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Translation



CDMA CROSSTALK

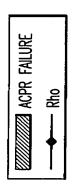
FIG.60A

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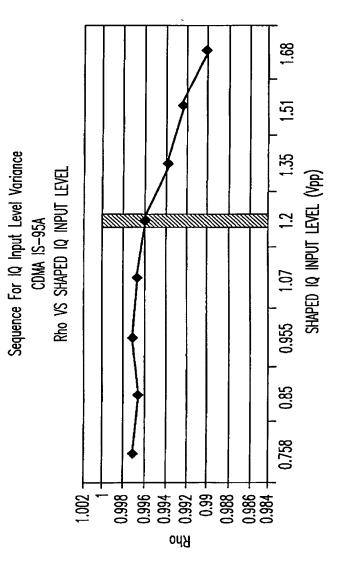
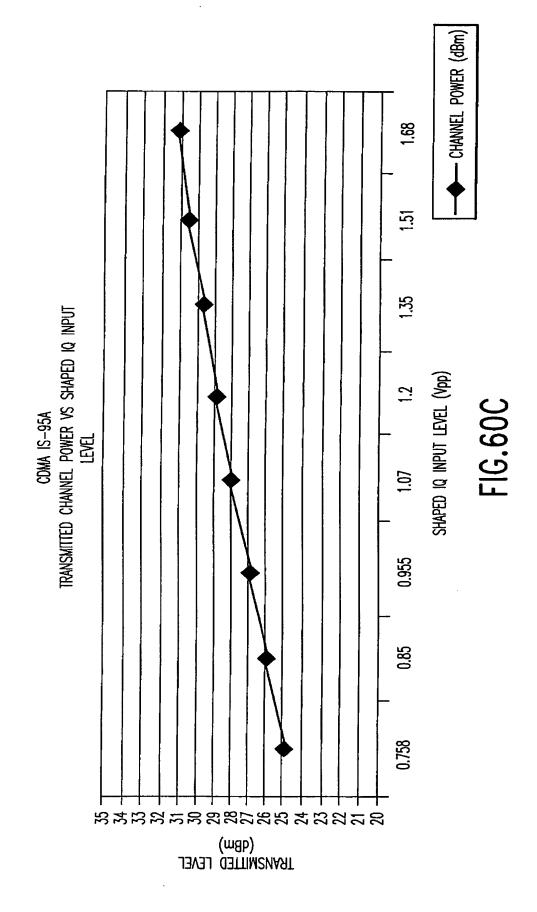


FIG.60B

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Inventors: Sorrells et al. Tel. No.: 202-371-2600

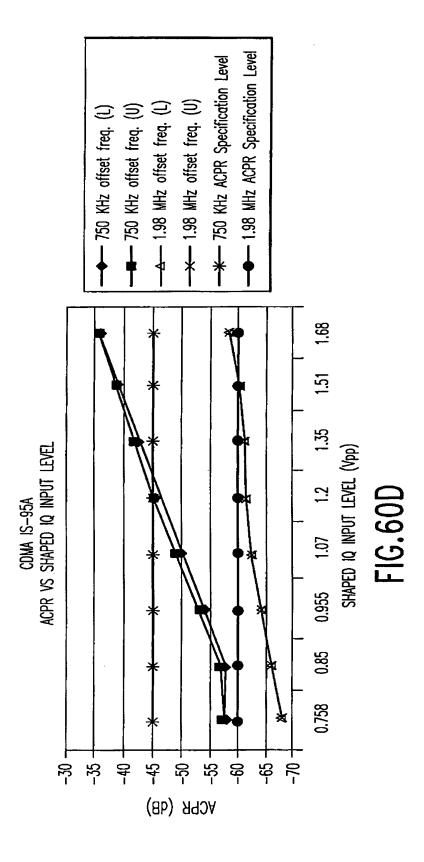
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Inventors: Sorrells et al. Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency Translation

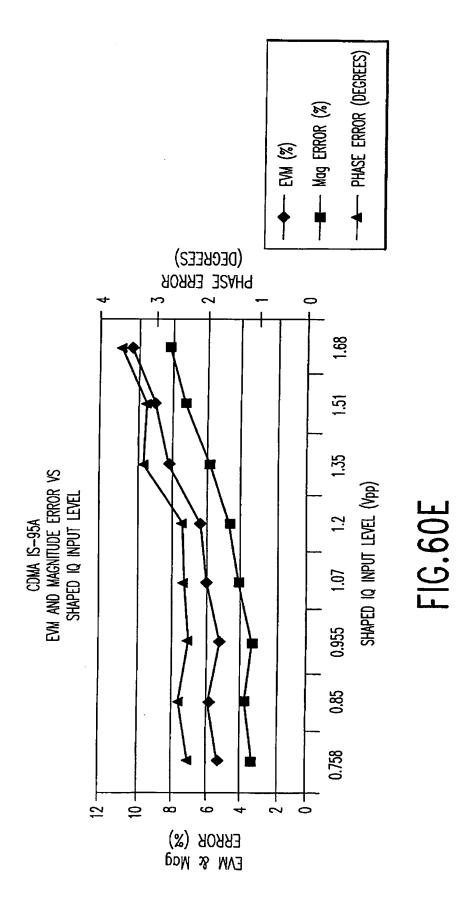


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Inventors: Sorrells et al. Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency Translation

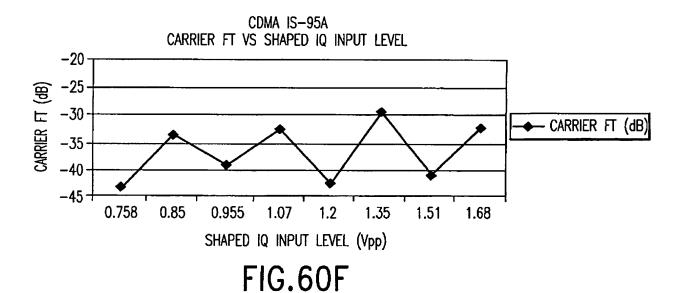


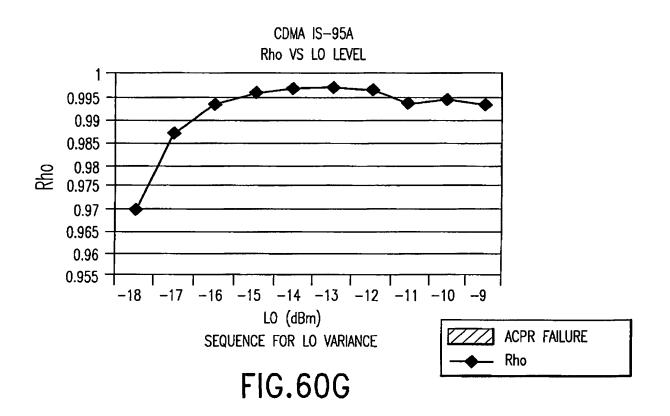
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Inventors: Sorrells et al. Tel. No.: 202-371-2600

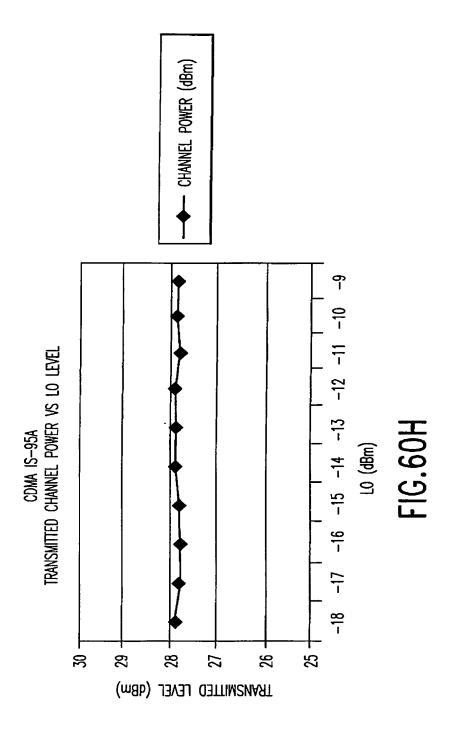
For: Spread Spectrum Applications of Universal Frequency

Translation



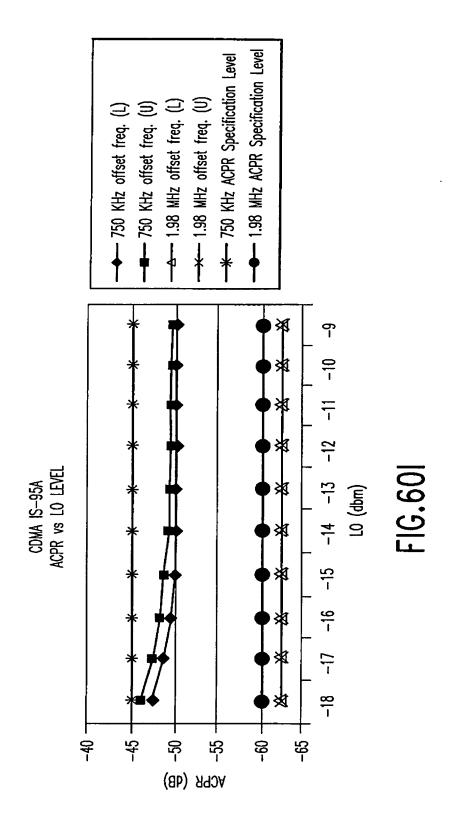


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Inventors: Sorrells et al.
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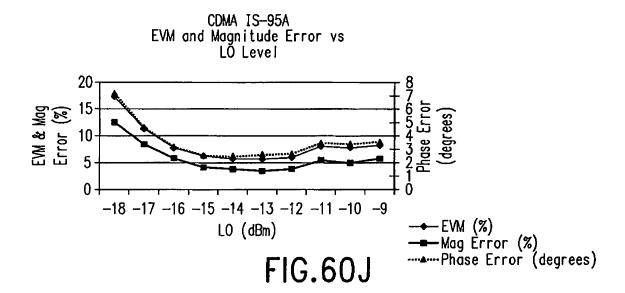
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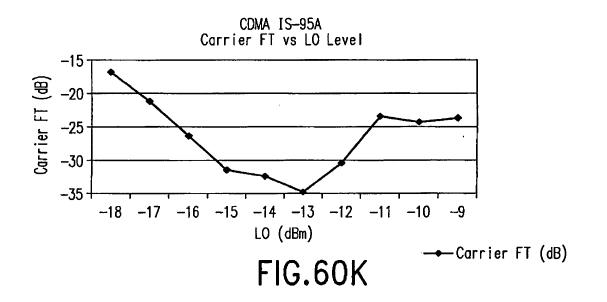
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For: Spread Spectrum Amblioticus Clarical

For: Spread Spectrum Applications of Universal Frequency Translation





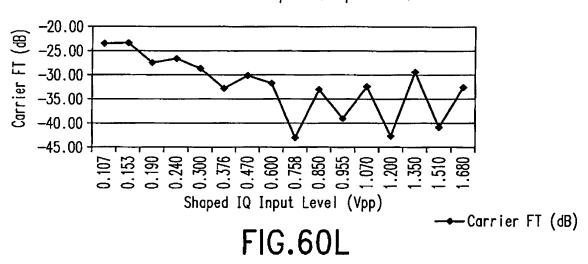
Replacement Sheet Sheet 110 of 189

Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634

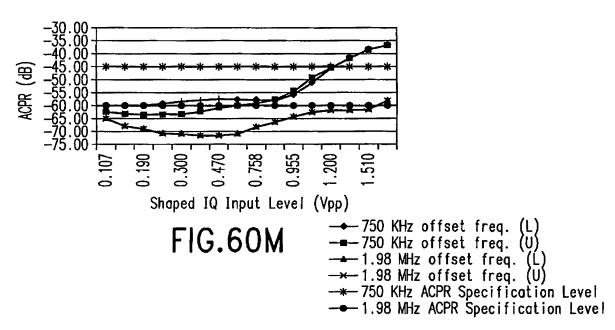
Inventors: Sorrells et al. Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency

CDMA IS-95A Carrier FT vs Shaped IQ Input Level



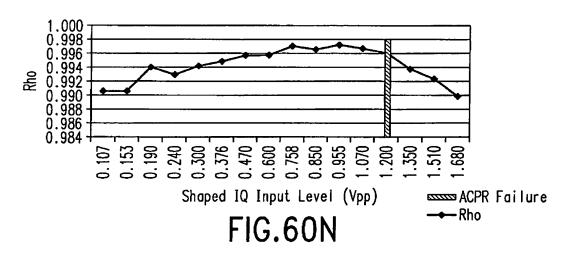
CDMA IS-95A ACPR vs Shaped IQ Input Level



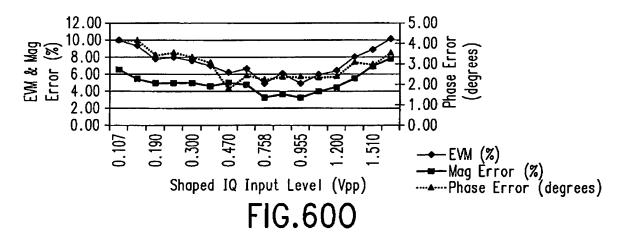
Replacement Sheet Sheet 111 of 189 Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634 Inventors: Sorrells et al. Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency Translation

CDMA IS-95A Rho vs Shaped IQ Input Level



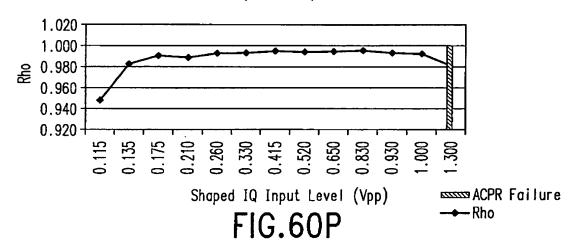
CDMA IS-95A EVM, Magnitude Error and Phase Error vs Shaped IQ Input Level



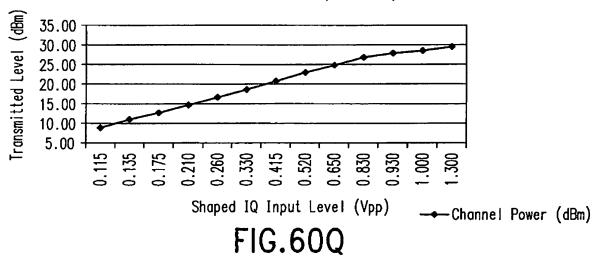
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Sequence For IQ Input Level Variance CDMA IS-95A Mobile Transmitter@+3.3V Rho vs Shaped IQ Input Level



CDMA IS-95A Mobile Transmitter@+3.3V Transmitted Channel Power vs Shaped IQ Input Level

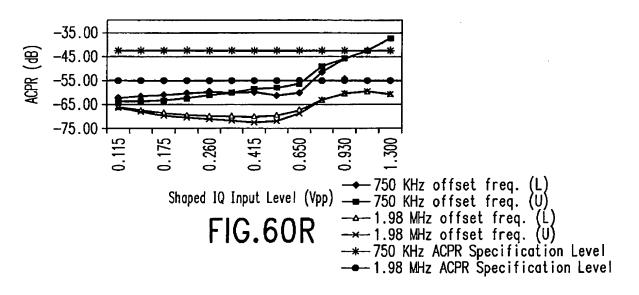


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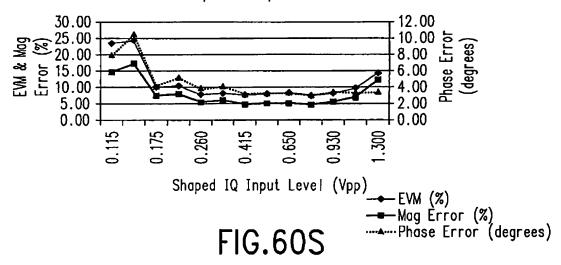
Inventors: Sorrells et al. Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency Translation

CDMA IS-95A Mobile Transmitter@+3.3V ACPR vs Shaped IQ Input Level



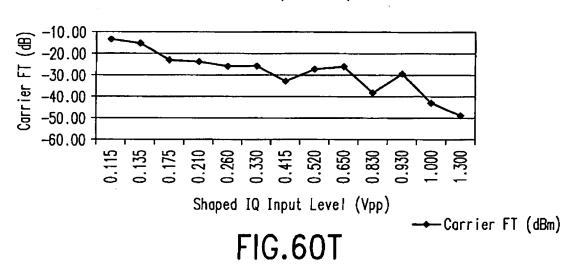
CDMA IS-95A Mobile Transmitter@+3.3V EVM, Magnitude Error and Phase Error vs Shaped IQ Input Level



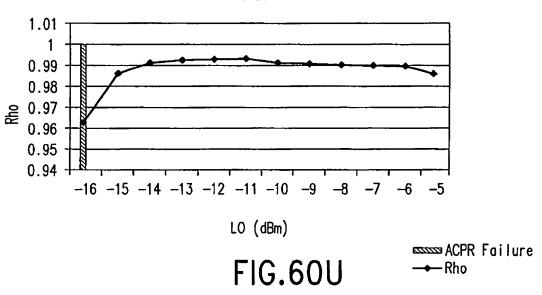
Replacement Sheet Sheet 114 of 189 Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634 Inventors: Sorrells et al. Tel. No.: 202-371-2600 For: Spread Spectrum Applications of University

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CDMA IS-95A Mobile Transmitter@+3.3V Carrier FT vs Shaped IQ Input Level



Sequence For LO Variance CDMA IS-95A Mobile Transmitter@+3.3V Rho vs LO Level

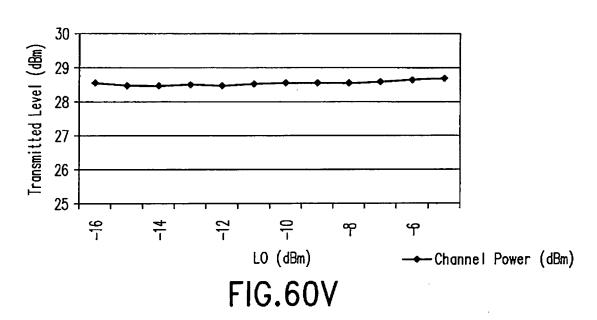


Replacement Sheet

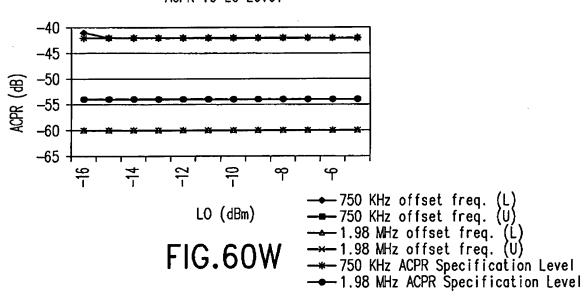
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For: Spread Spectrum Applications of Universal Frequency Translation

CDMA IS-95A Mobile Transmitter@+3.3V Transmitted Channel Power vs LO Level



CDMA IS-95A Mobile Transmitter@+3.3V ACPR vs LO Level

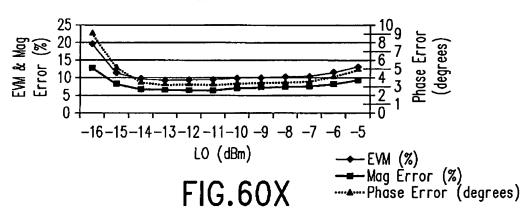


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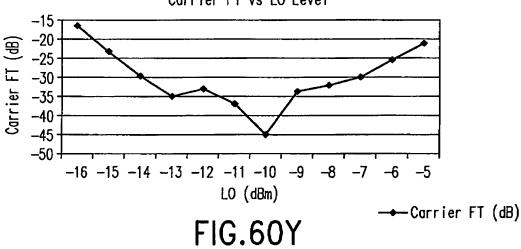
Inventors: Sorrells et al. Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency Translation

CDMA IS-95A Mobile Transmitter@+3.3V EVM and Magnitude Error vs LO Level



CDMA IS-95A Mobile Transmitter@+3.3V Carrier FT vs LO Level

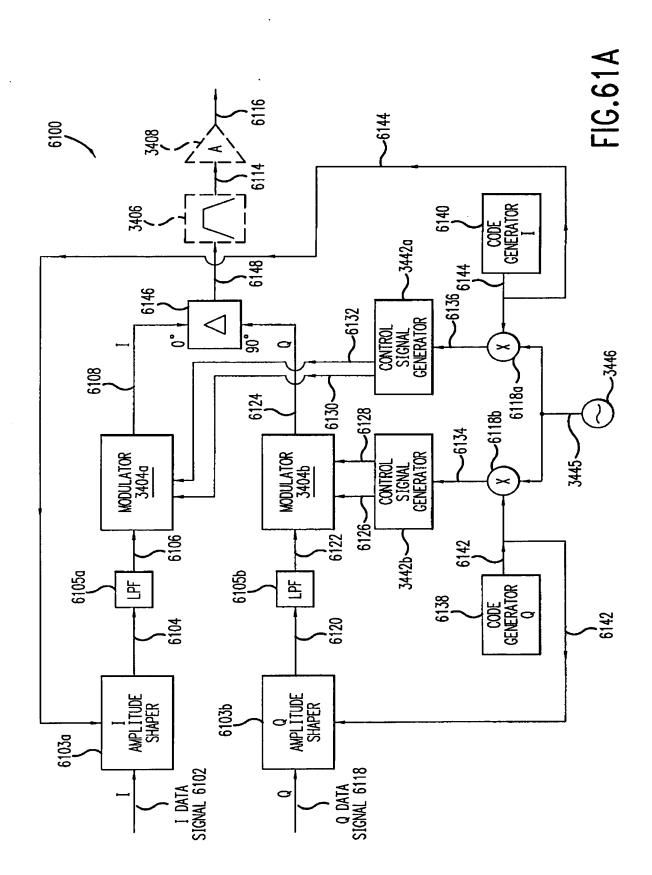


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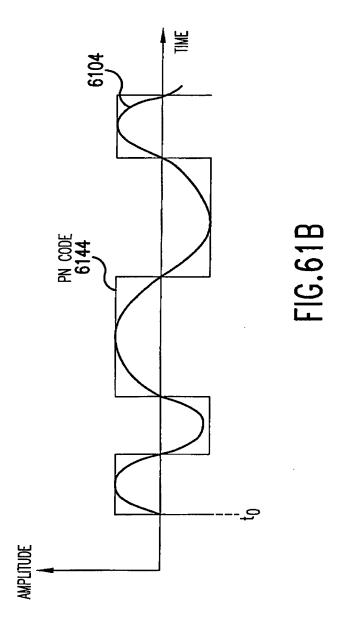
Replacement Sheet Sheet 118 of 189 Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634

Inventors: Sorrells et al.

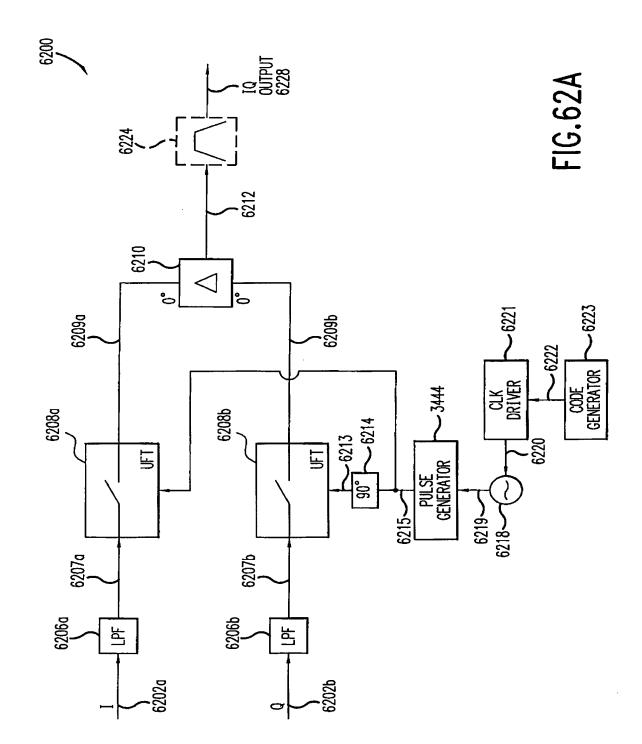
Tel. No.: 202-371-2600
For: Spread Spectrum Applications of Universal Frequency
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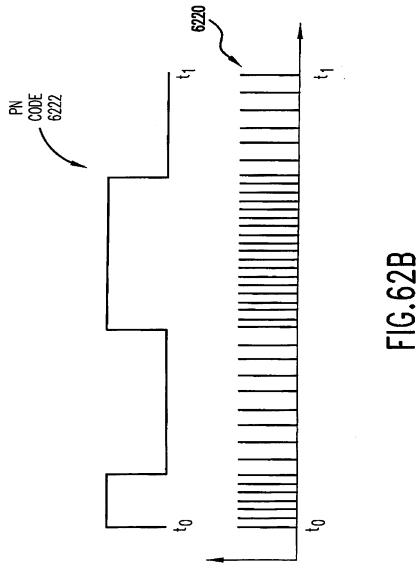
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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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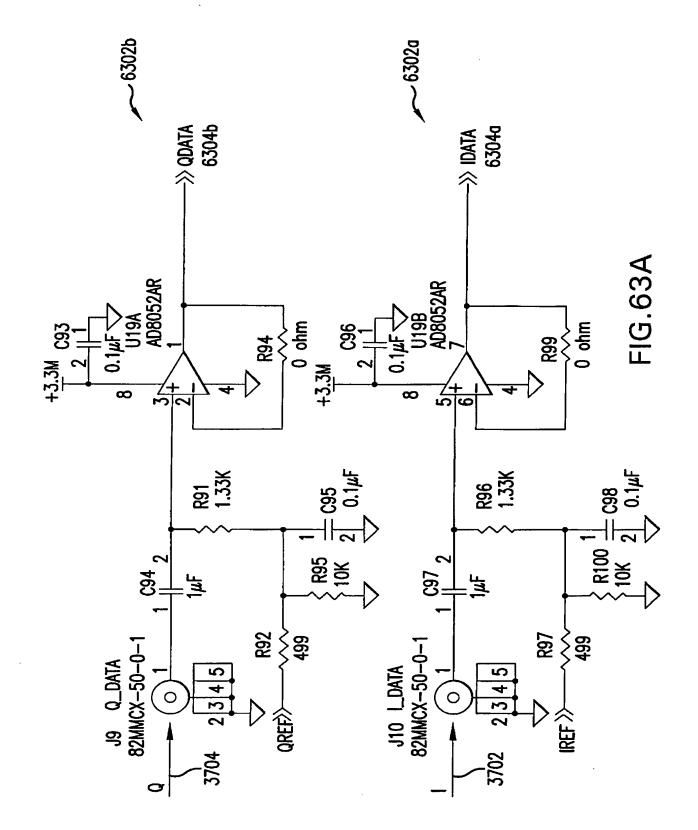


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Translation



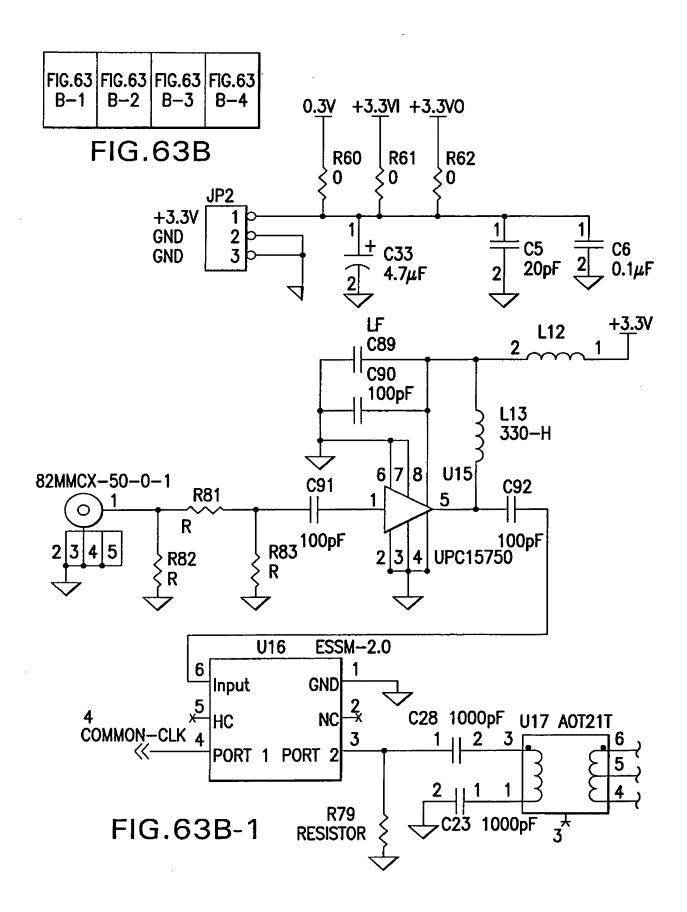
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Inventors: Sorrells et al. Tel. No.: 202-371-2600

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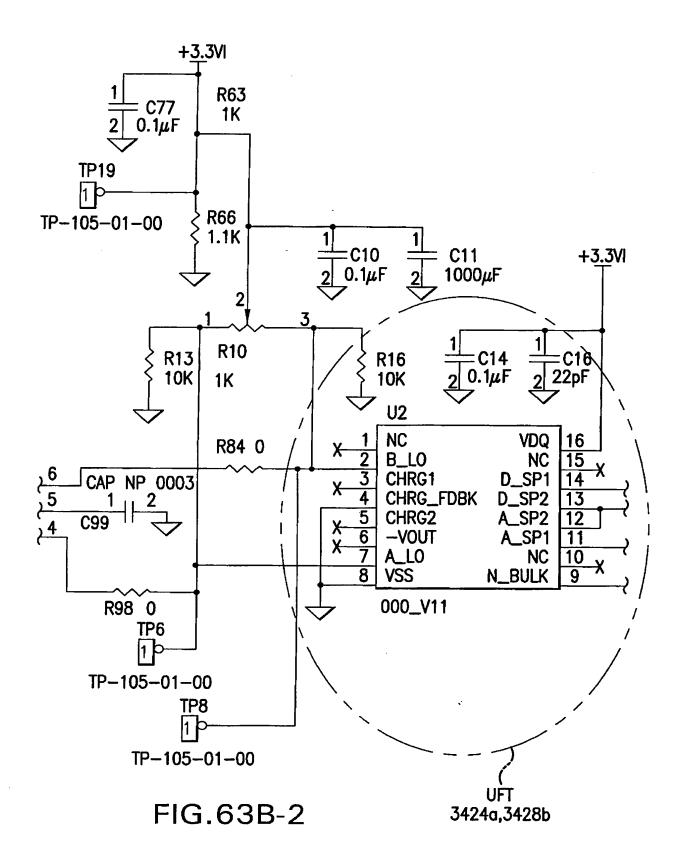
Frequency Translation



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Inventors: Sorrells et al. Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency



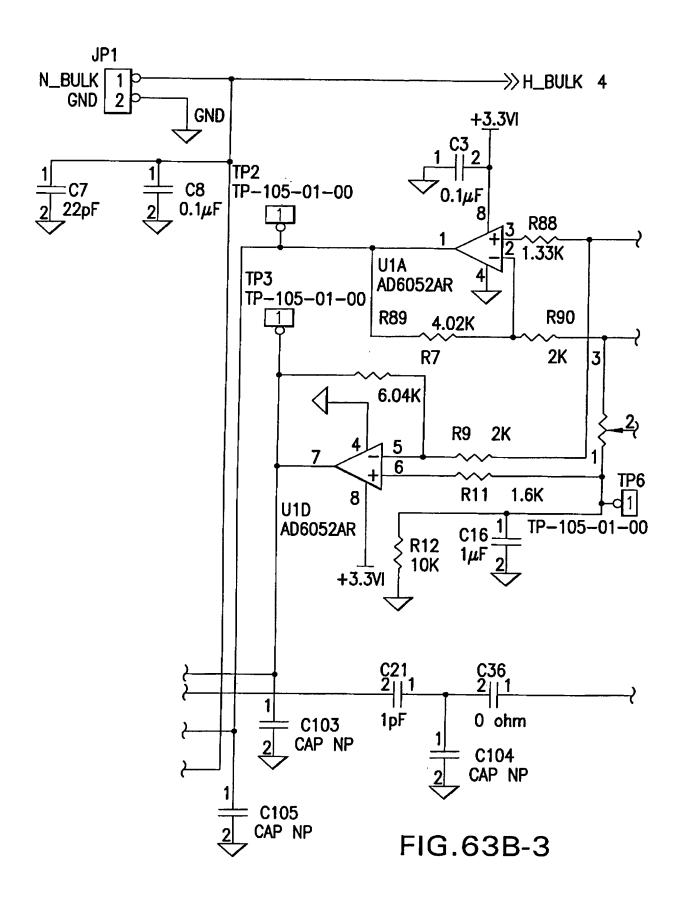
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Inventors: Sorrells et al.

Tel. No.: 202-371-2600 For: Spread Spectrum Applications of Universal Frequency

Translation



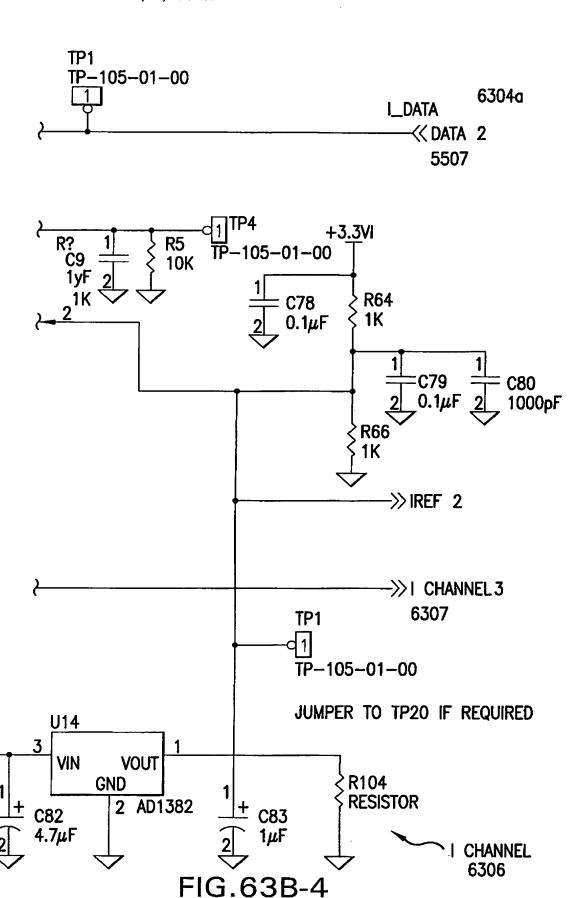
Replacement Sheet Sheet 126 of 189

Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634

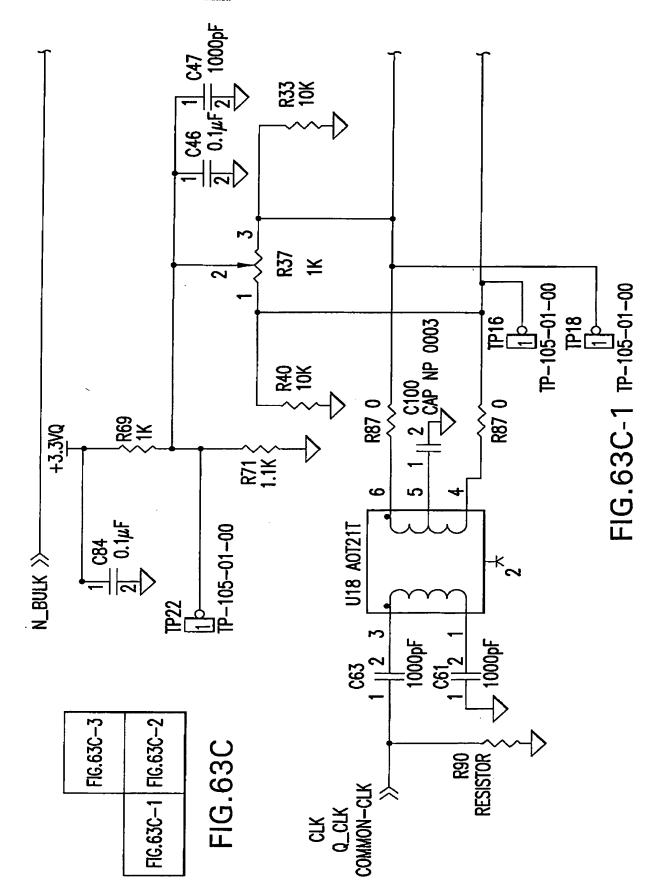
Inventors: Sorrells et al. Tel. No.: 202-371-2600

+3.3VI

For: Spread Spectrum Applications of Universal Frequency Translation



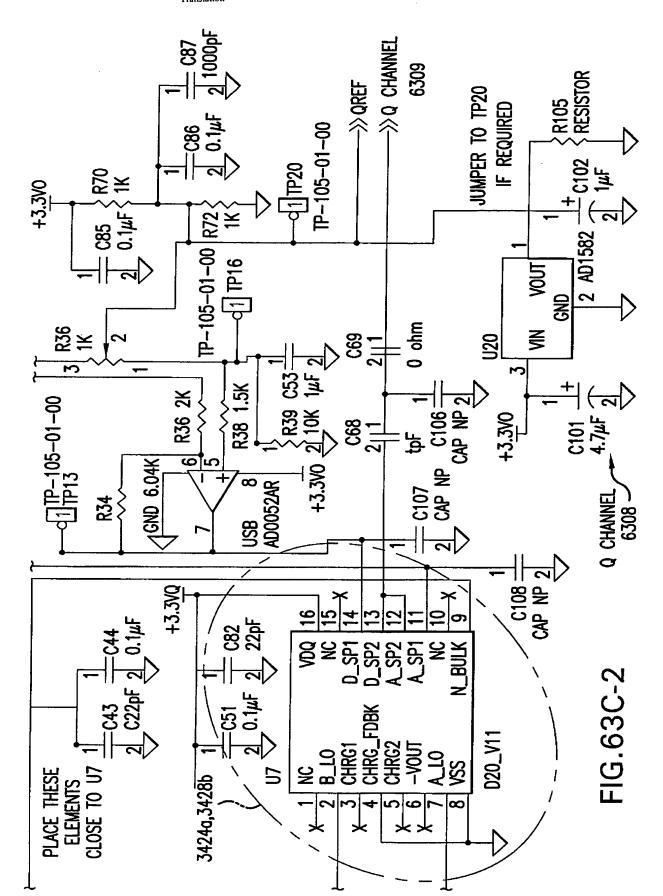
Replacement Sheet Sheet 127 of 189 Appl. No. 09/525,185; Filed: Mar 14, 2000
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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Tel. No.: 202-371-2600

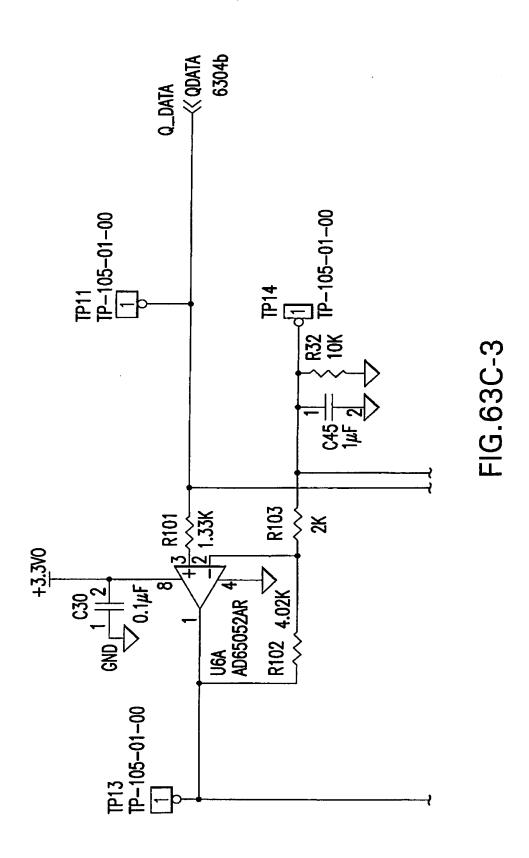
For: Spread Spectrum Applications of Universal Frequency



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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Frequency Translation

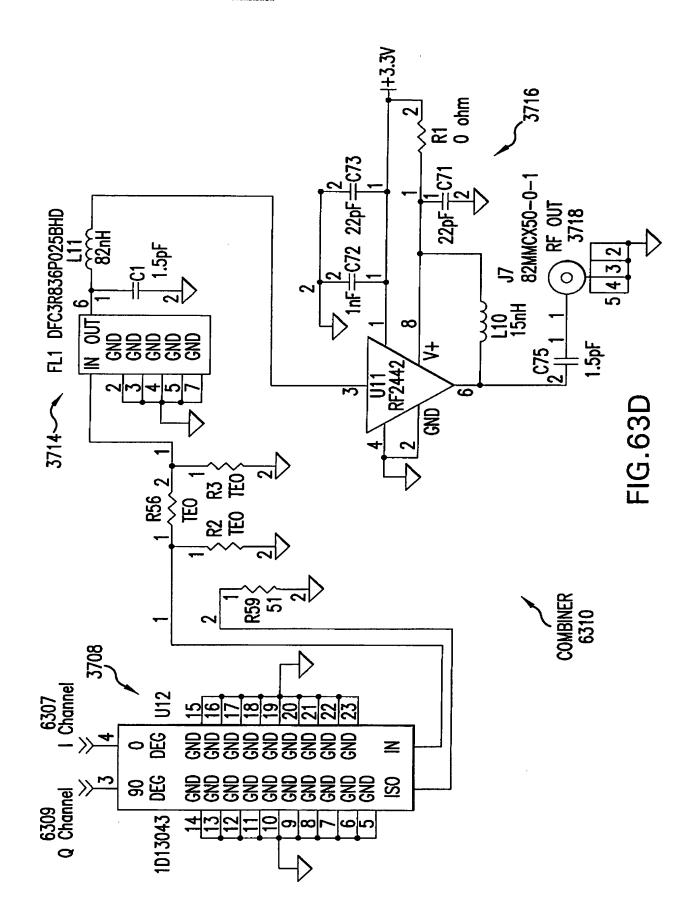


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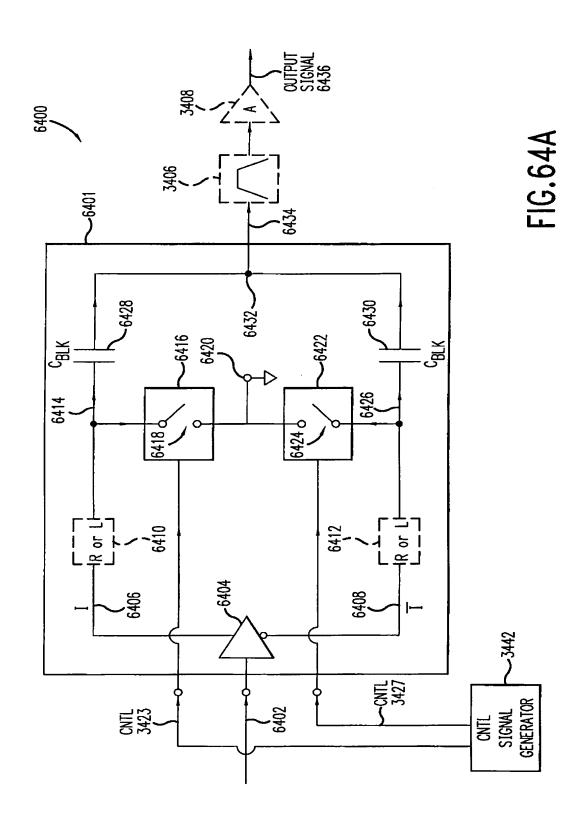
Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634 Inventors: Sorrells et al. Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency

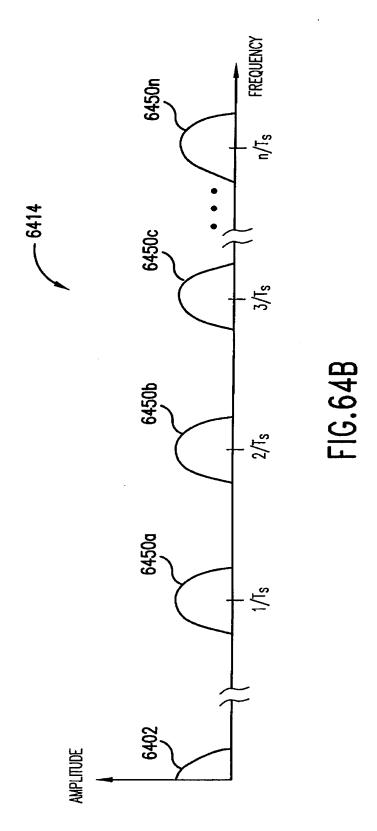
Translation



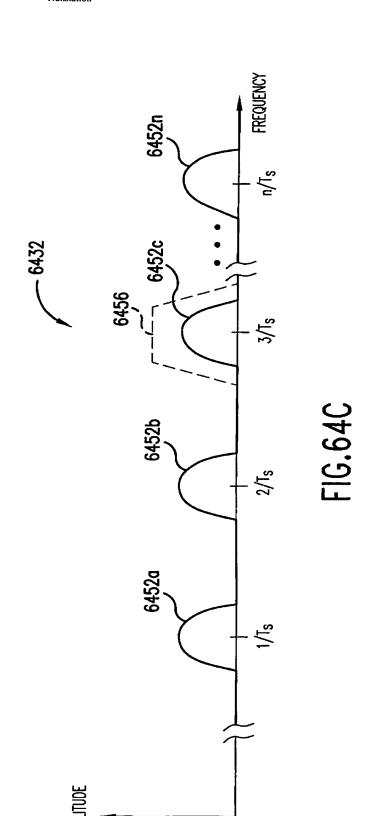
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Tel. No.: 202-371-2600
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Frequency Translation

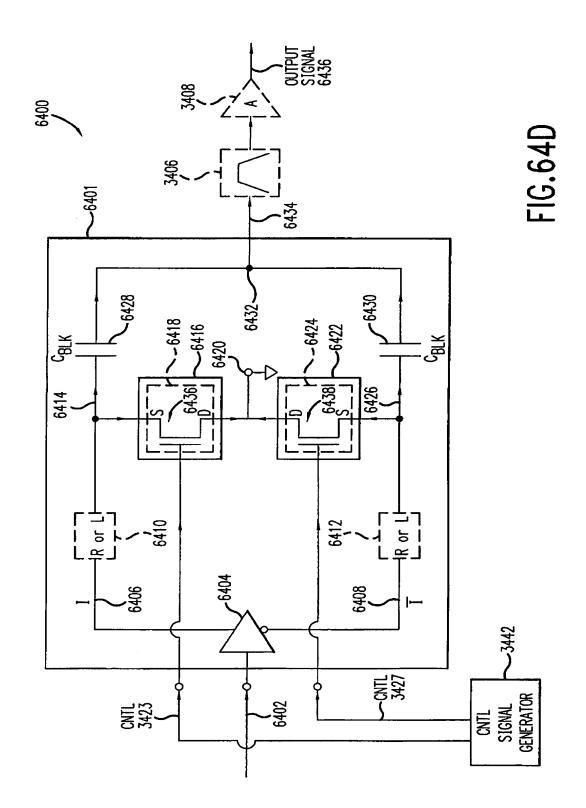


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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Translation



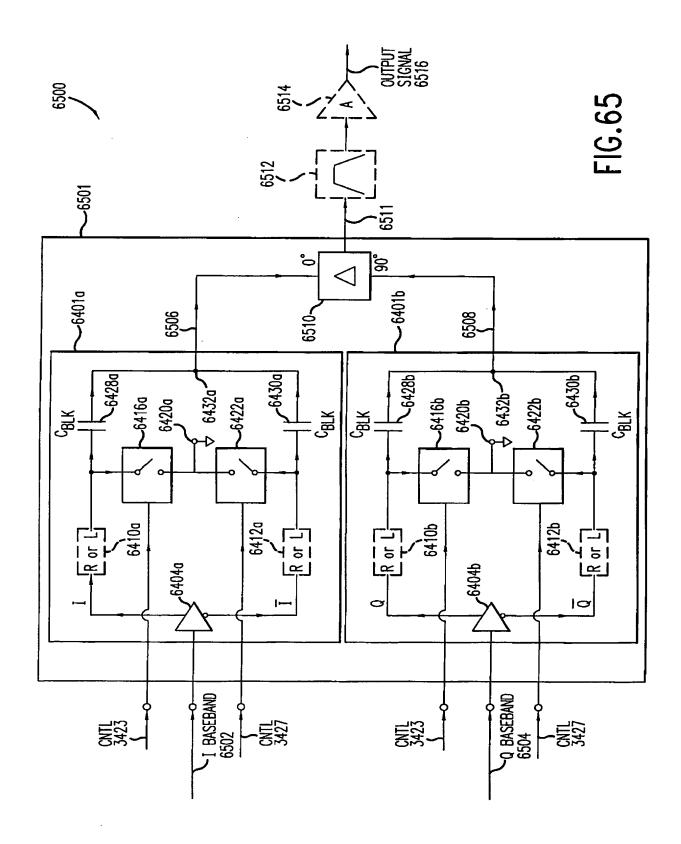
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Dkt No. 1744.0450002; Group Unit: 2634
Inventors: Sorrells et al.
Tel. No.: 202-371-2600

For: Spread Spectrum Applications of Universal Frequency Translation

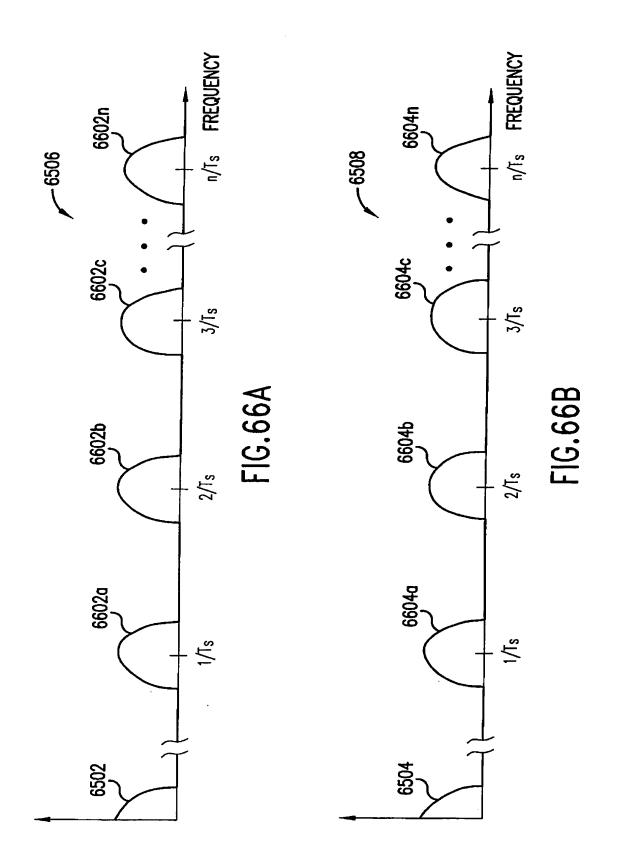


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Tel. No.: 202-371-2600
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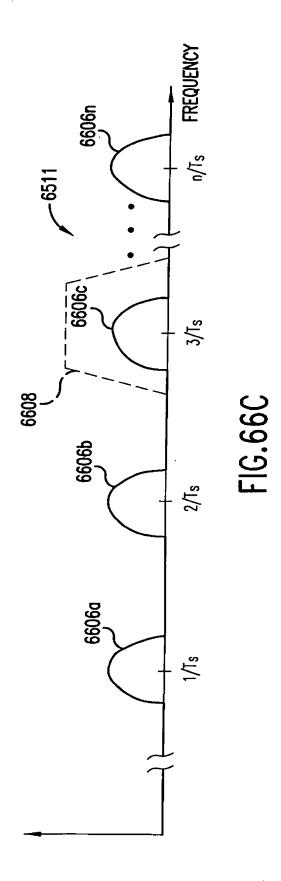




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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Translation

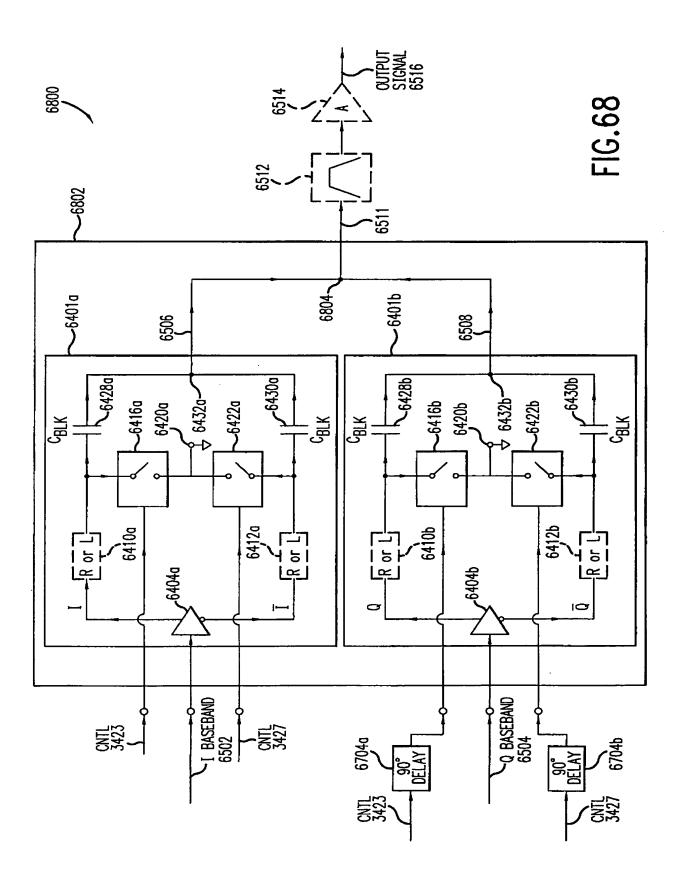


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OUTPUT SIGNAL 6516 90029 FIG.67 6511 6506 6432a~ 6432b-**~6416**a **√6422**a ~6416b 6420b ~6422b 6,4200 CBLK 쯦 S E E GEK SEK 4 2 I | ! |-4 2 J 6404a 2 2 2 0 O BASEBAND 1 6504 -I BASEBAND 6502

Replacement Sheet

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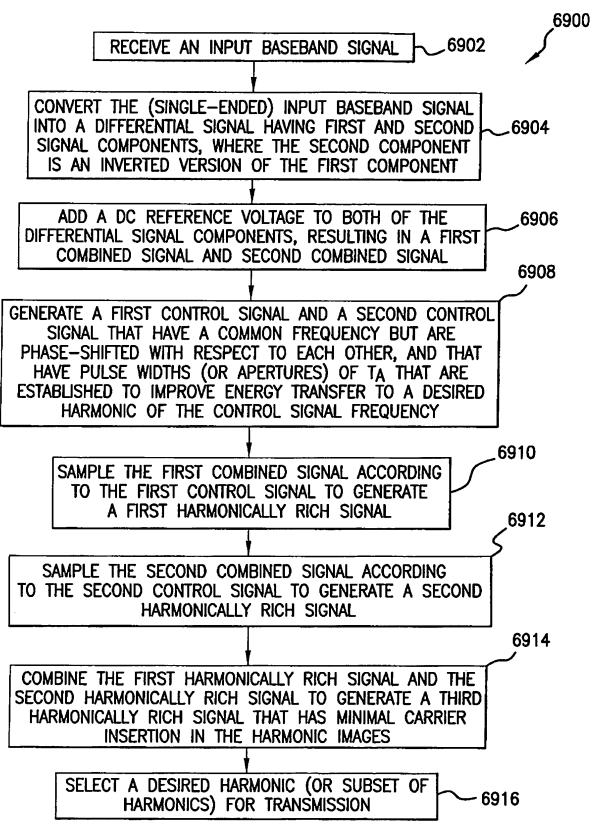


FIG.69

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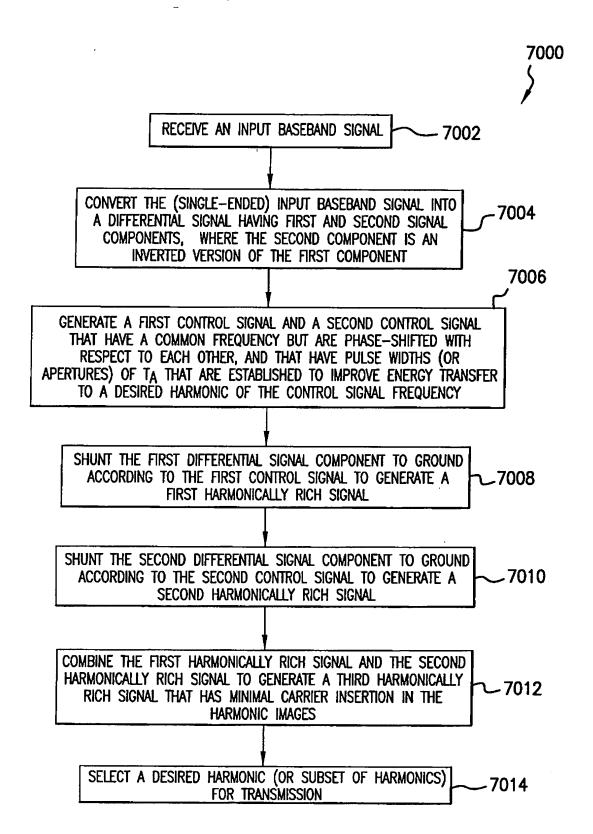


FIG.70

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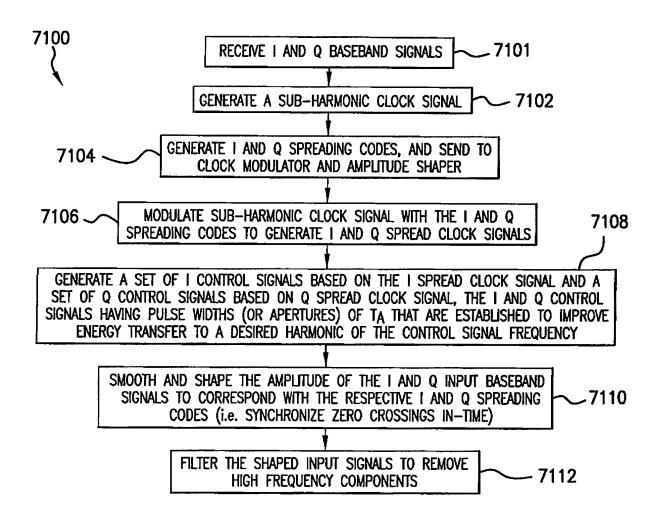


FIG.71A

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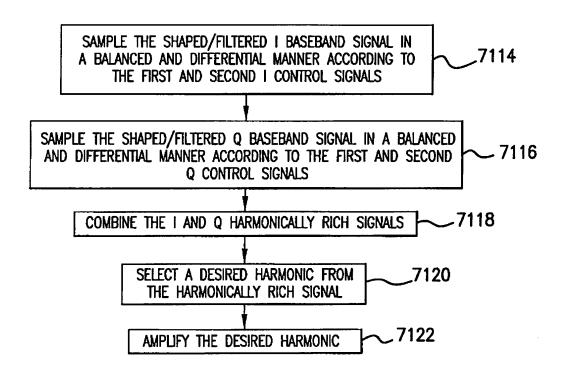


FIG.71B

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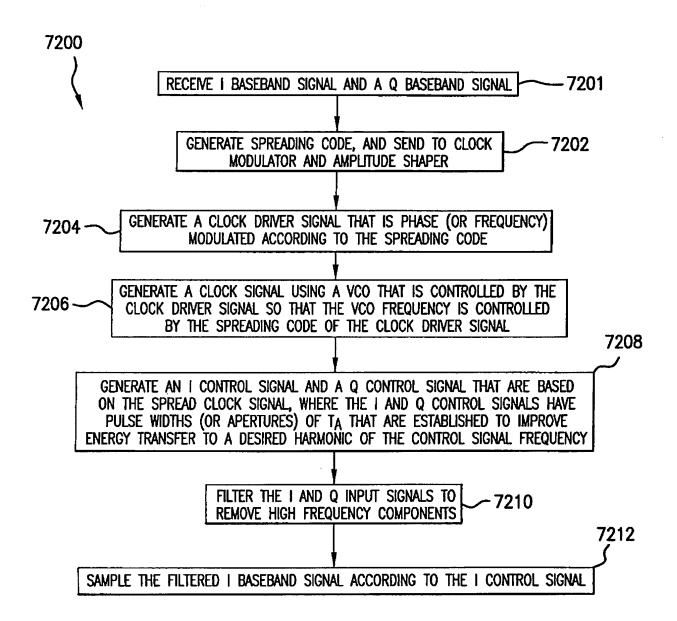


FIG.72A

Replacement Sheet Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634 Inventors: Sorrells et al. Tel. No.: 202-371-2600

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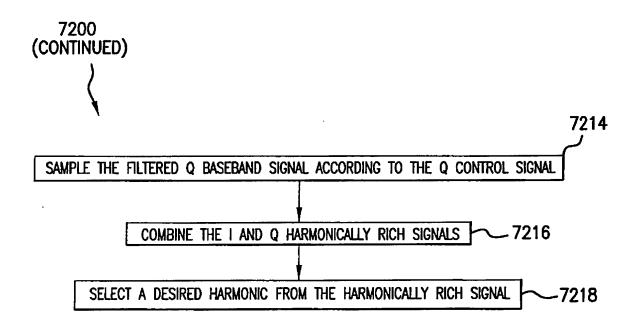
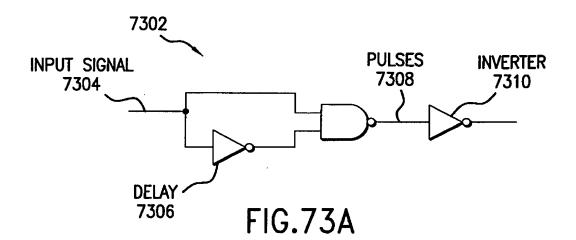


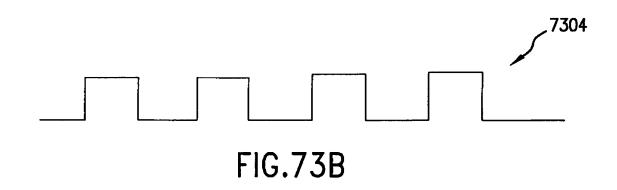
FIG.72B

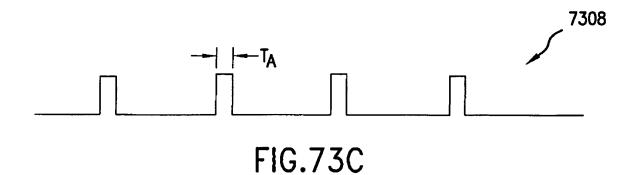
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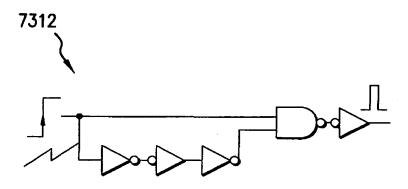




Replacement Sheet

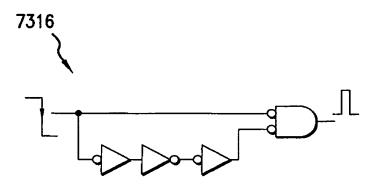
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RISING EDGE PULSE GENERATOR

FIG.73D



FALLING-EDGE PULSE GENERATOR

FIG.73E

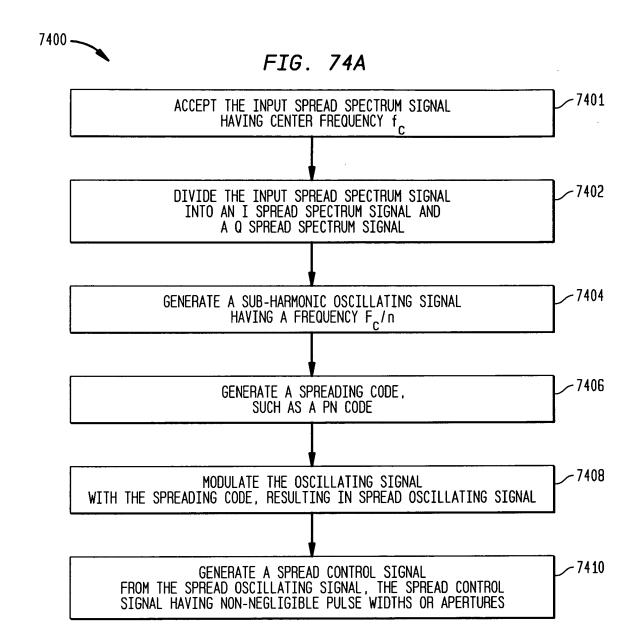
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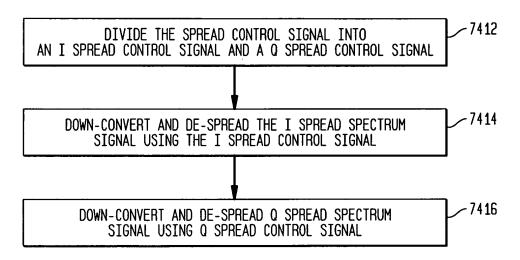
Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634

Inventors: Sorrells et al. Tel. No.: 202-371-2600

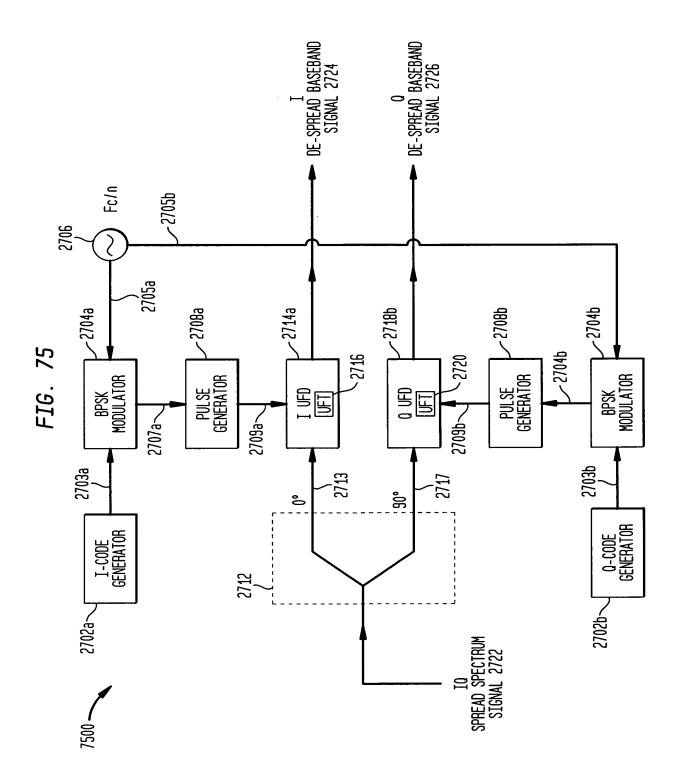
For: Spread Spectrum Applications of Universal Frequency Translation



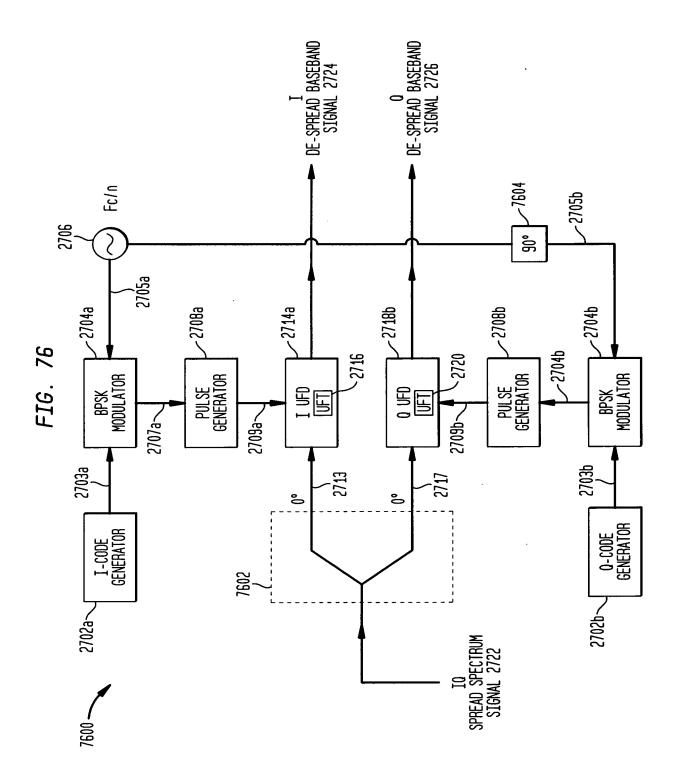
FIG. 74B



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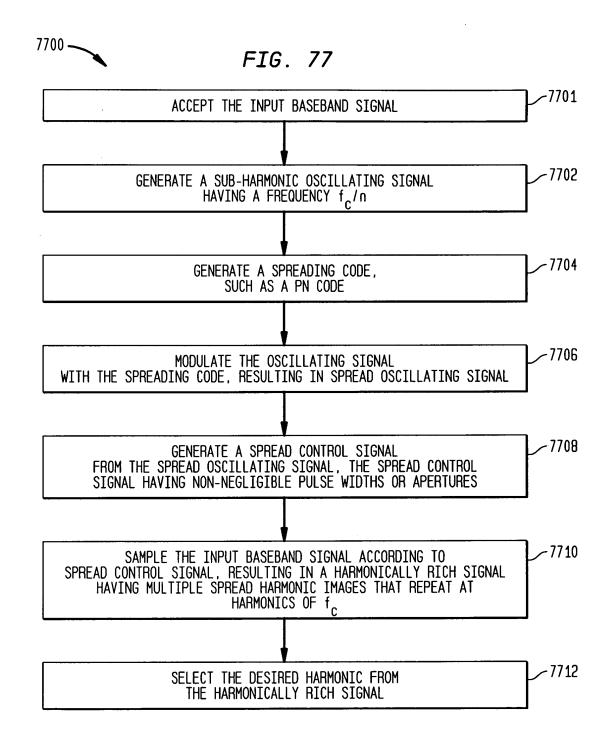


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Translation



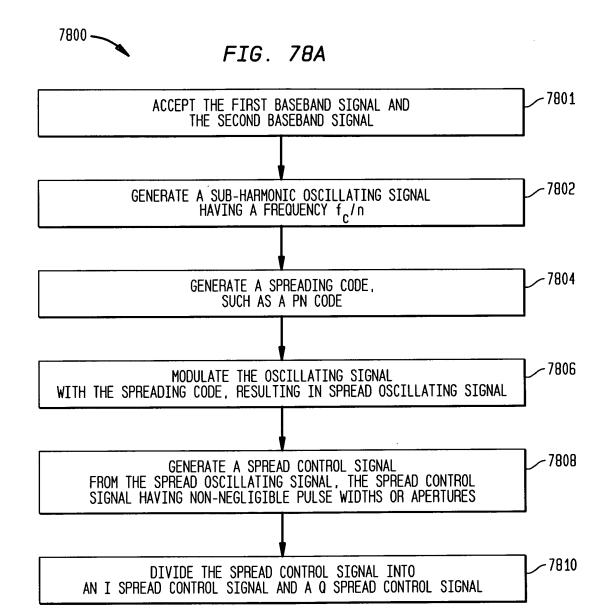
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Frequency Translation

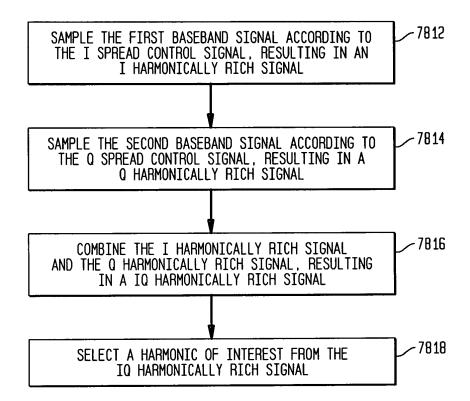


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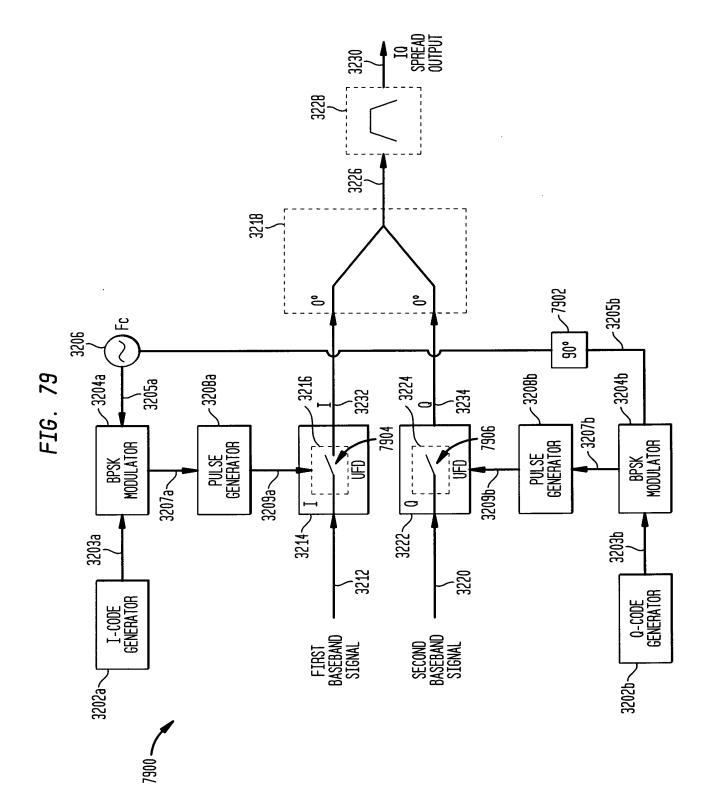
FIG. 78B



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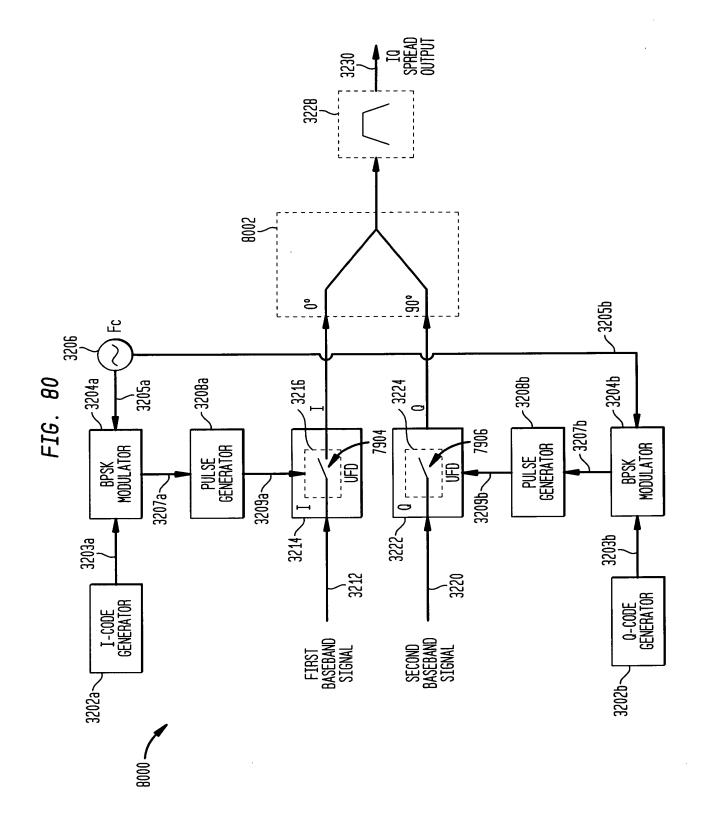
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Translation



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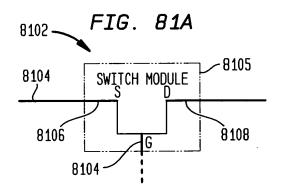
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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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Frequency Translation

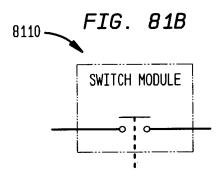


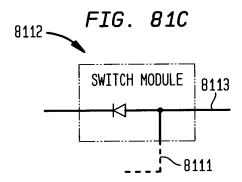
Replacement Sheet Sheet 157 of 189 Appl. No. 09/525,185; Filed: Mar 14, 2000 Dkt No. 1744.0450002; Group Unit: 2634 Inventors: Sorrells et al. Tel. No.: 202-371-2600

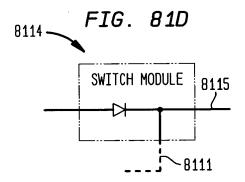
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Translation









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Translation

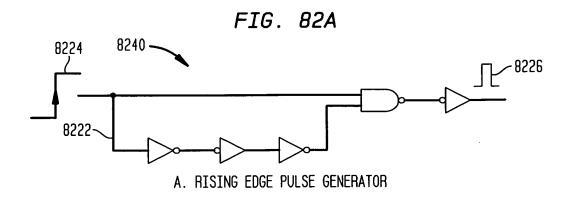
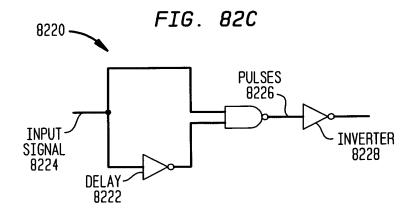


FIG. 82B 8250 -8224 **∏** 8226 8222-B. FALLING-EDGE PULSE GENERATOR



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FIG. 82D

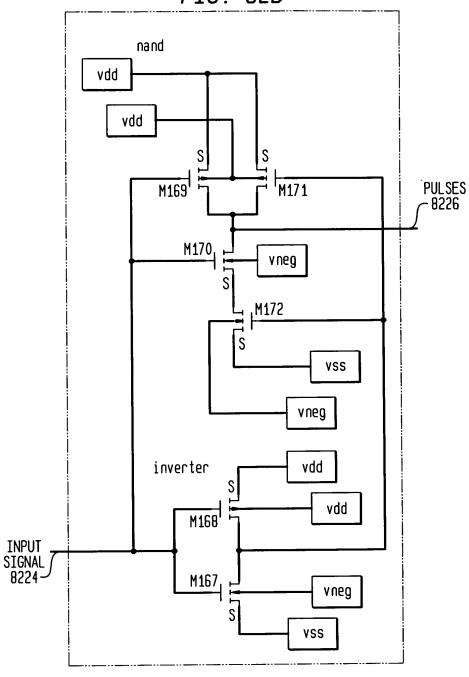
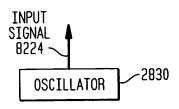
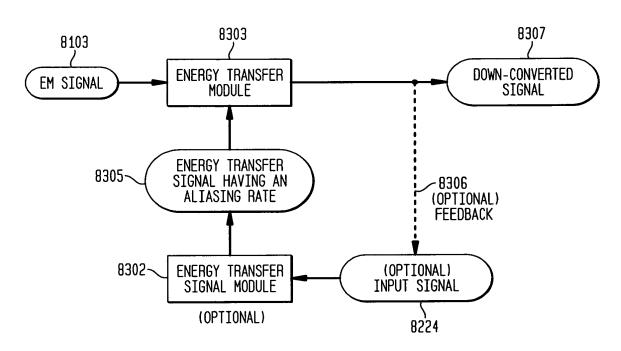


FIG. 82E



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FIG. 83



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FIG. 84 IMPEDANCE MATCHED ALIASING MODULE

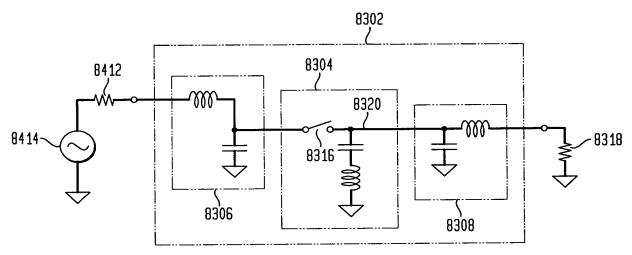
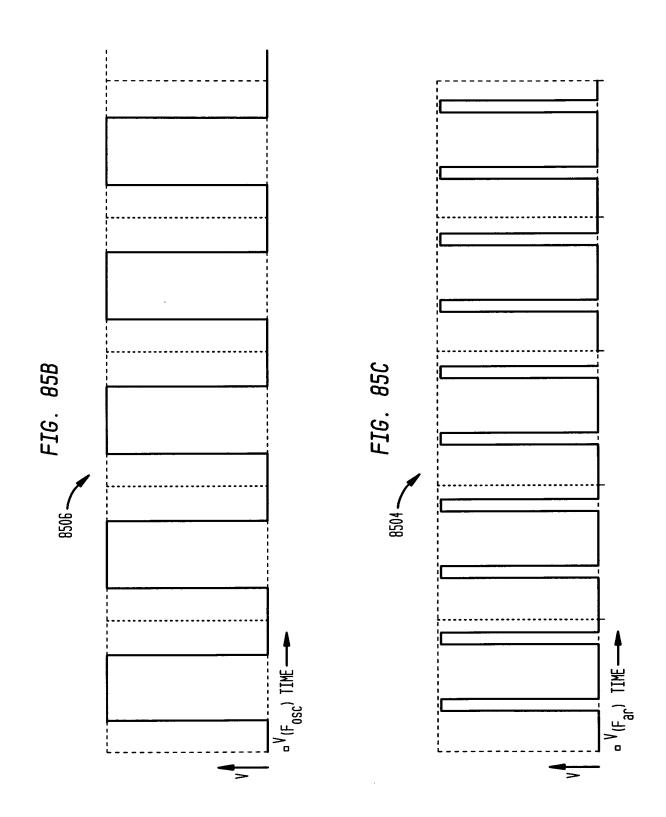


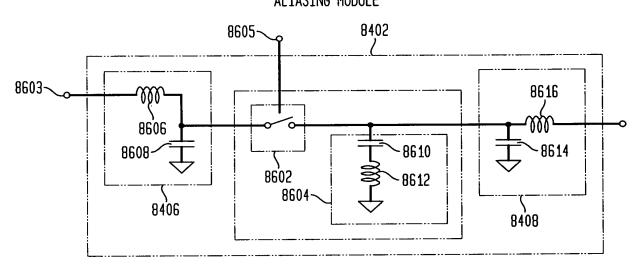
FIG. 85A 8504 8506 8502 -8510 8512 DOUBLER OUTPUT SIGNAL INPUT OSCILLATING SIGNAL Fosc Far 8508

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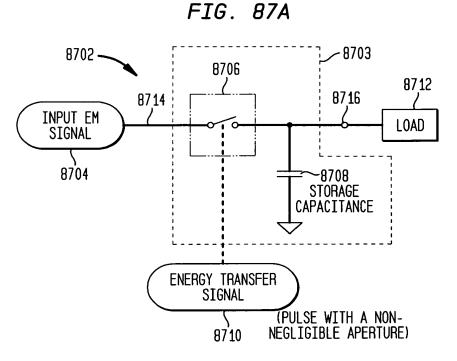
FIG. 86 ALIASING MODULE

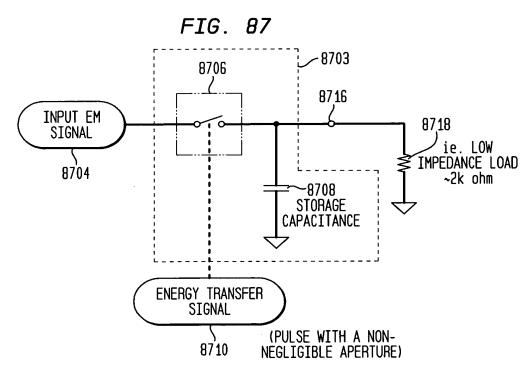


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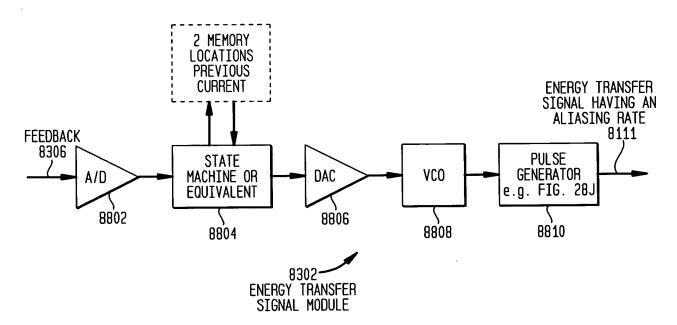




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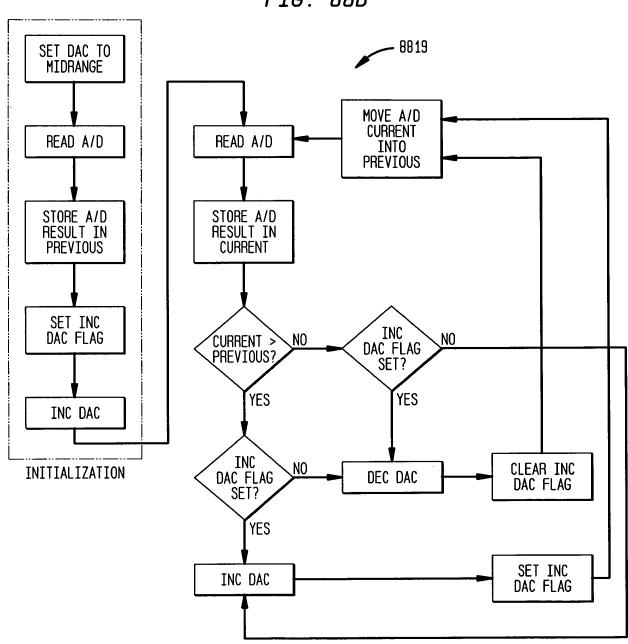
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FIG. 88A



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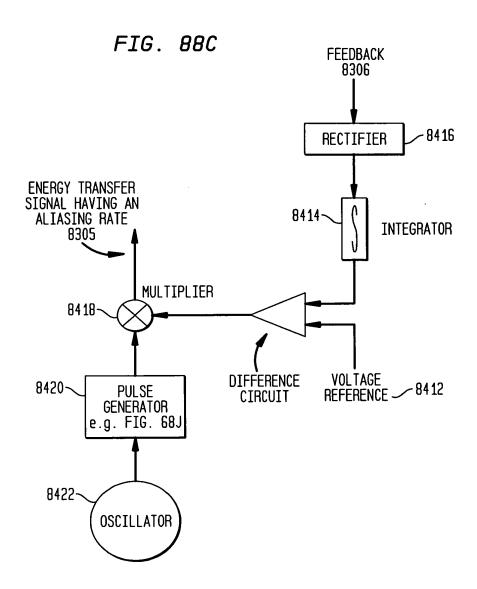
FIG. 88B



STATE MACHINE FLOWCHART

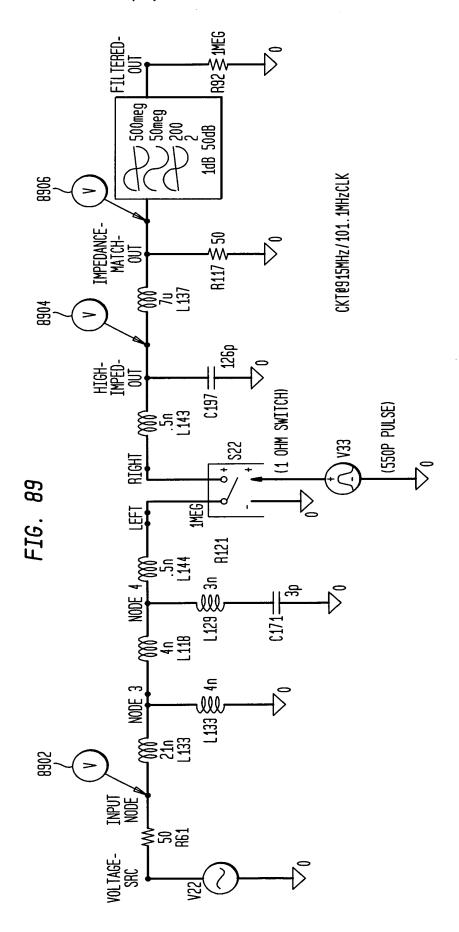
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Translation

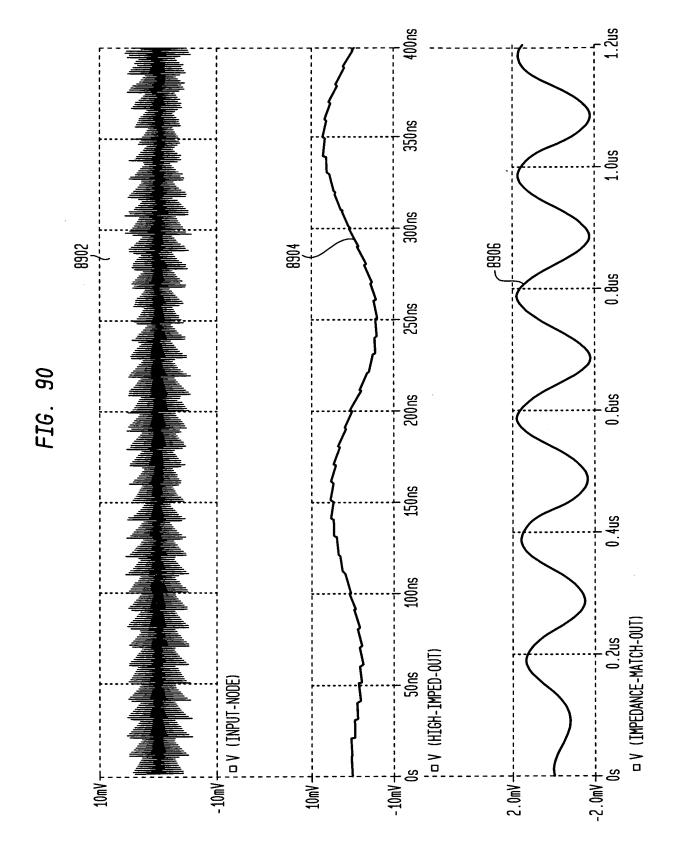


ENERGY TRANSFER SIGNAL MODULE 8302

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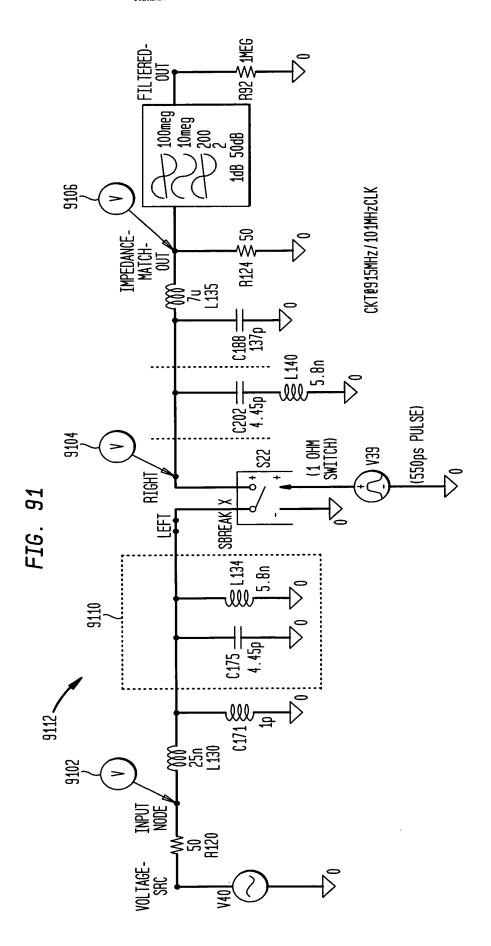


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Translation

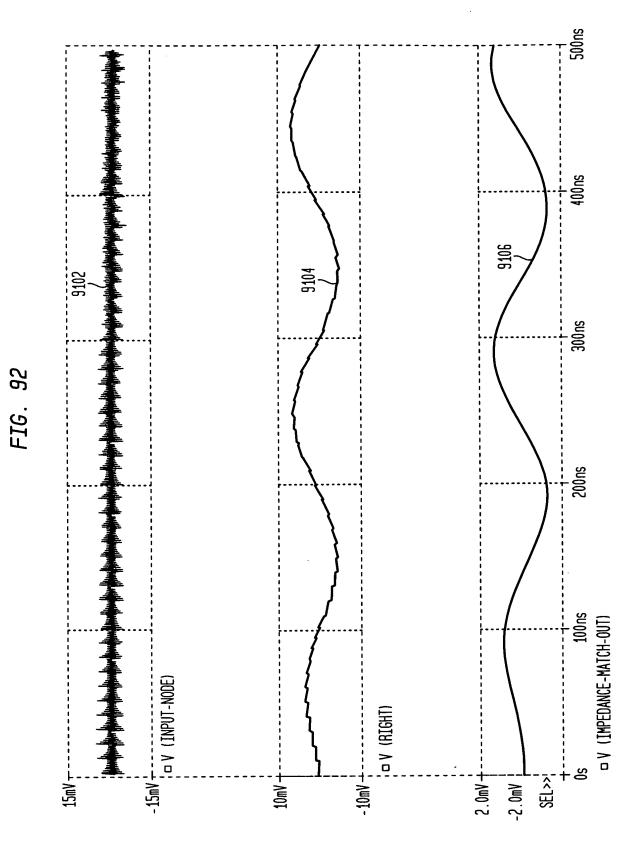


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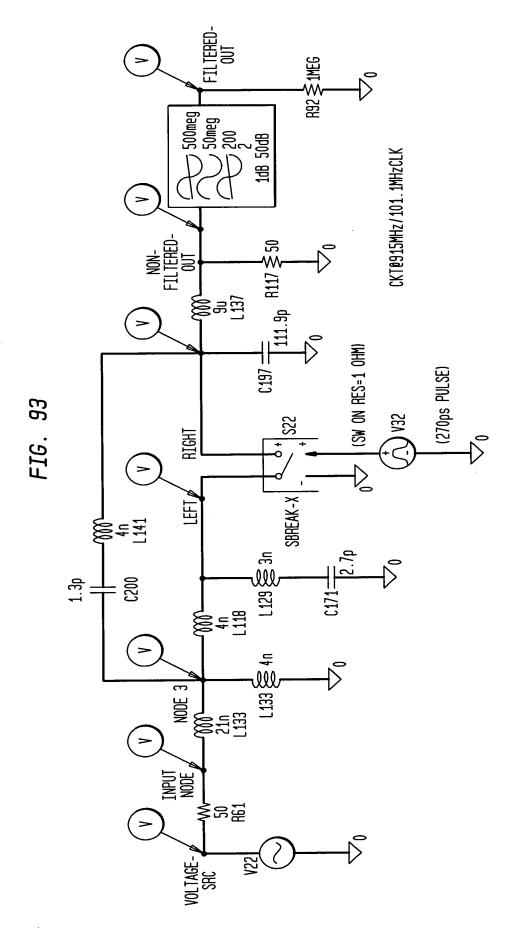
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Inventors: Sorrells et al.
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Inventors: Sorrells et al.
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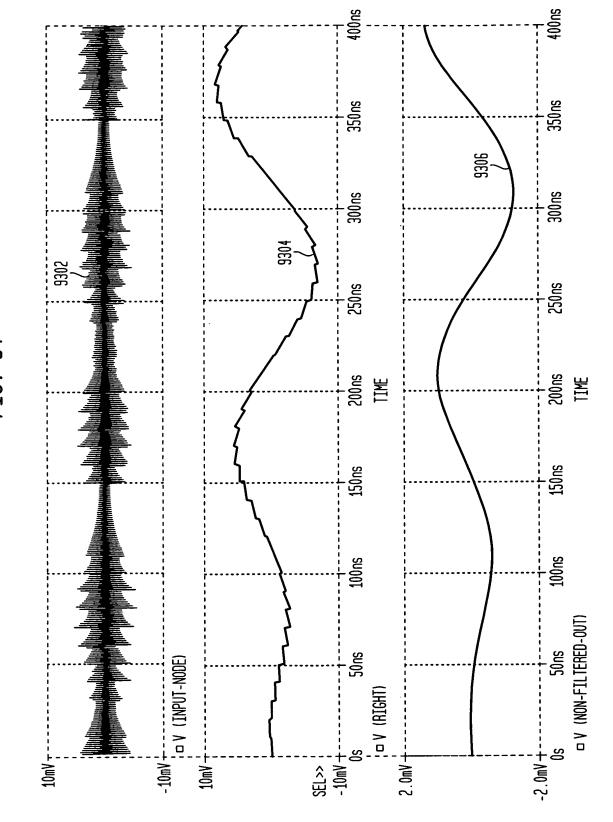
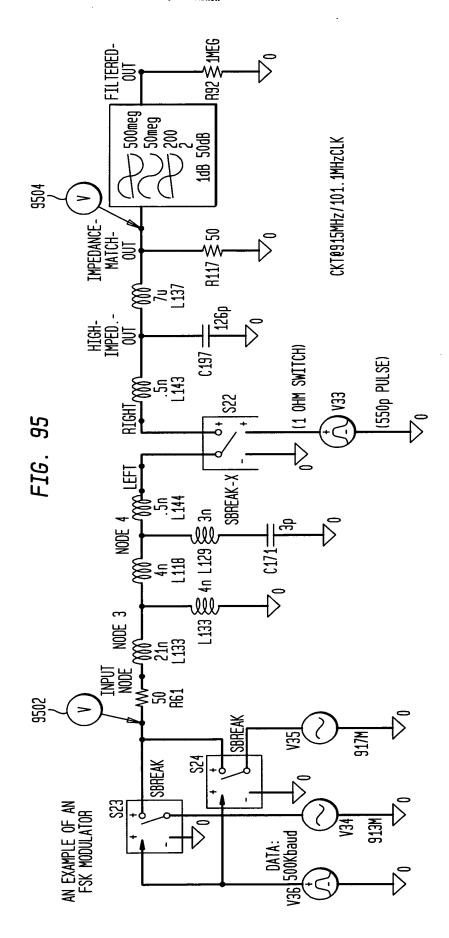


FIG. 94

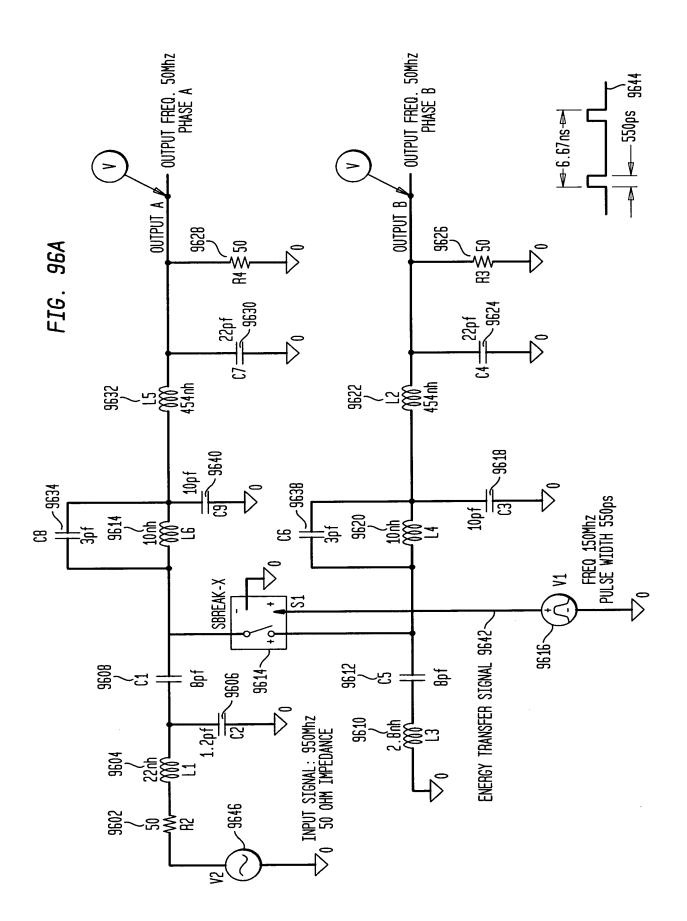
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Inventors: Sorrells et al.
Tel. No.: 202-371-2600
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For: Spread Spectrum Applications of Universal Frequency Translation

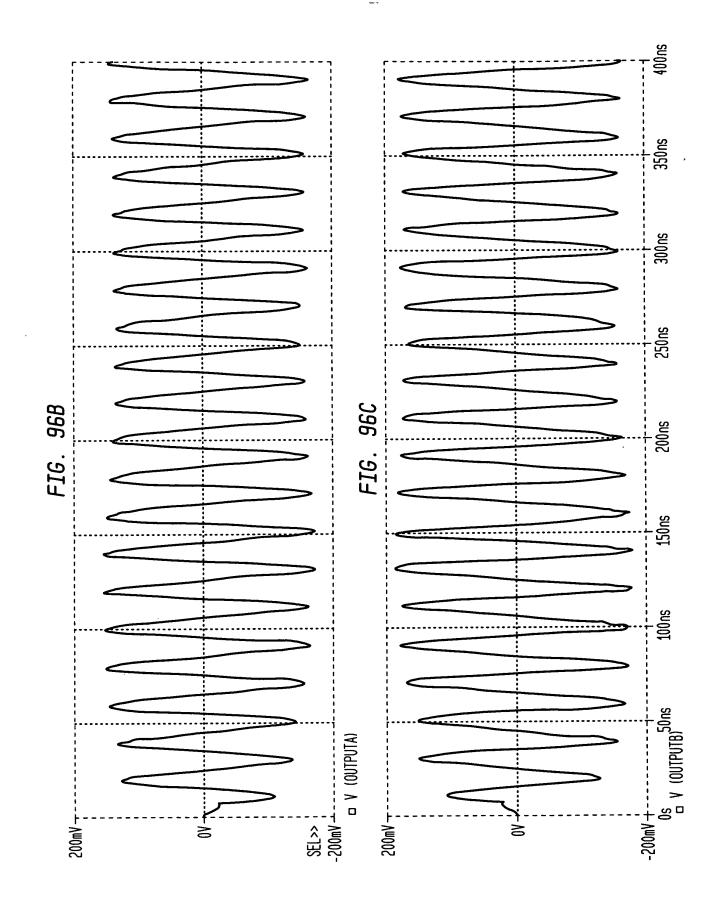


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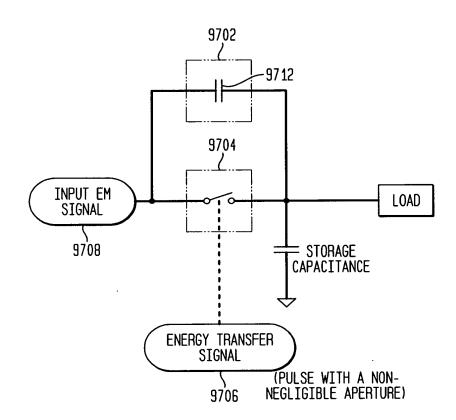
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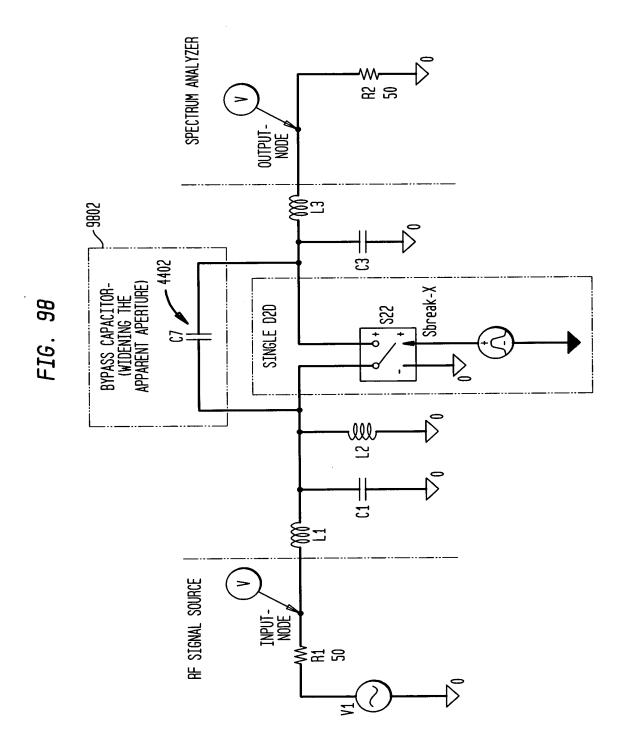
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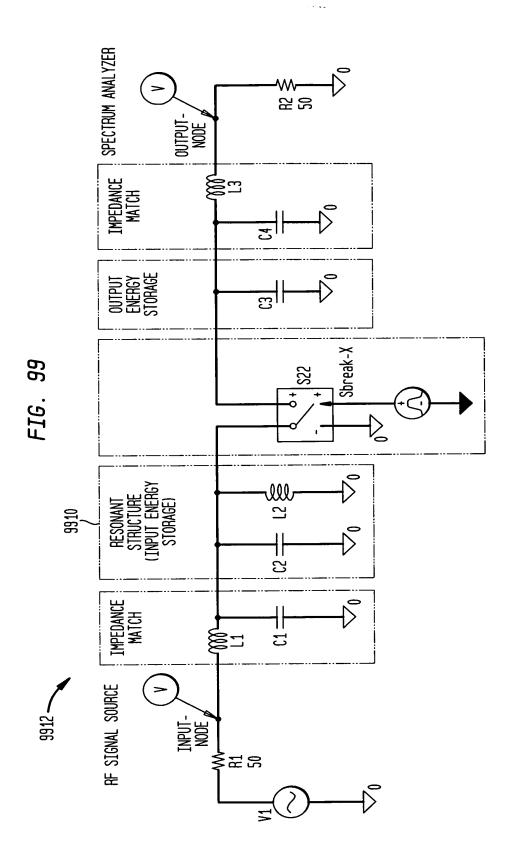
FIG. 97



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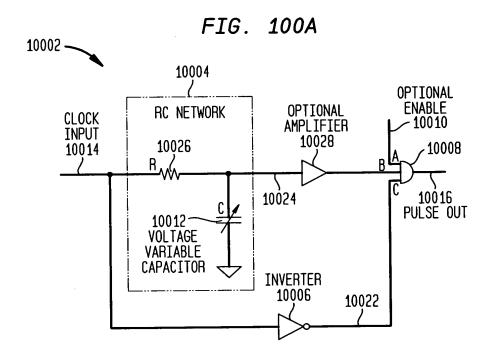


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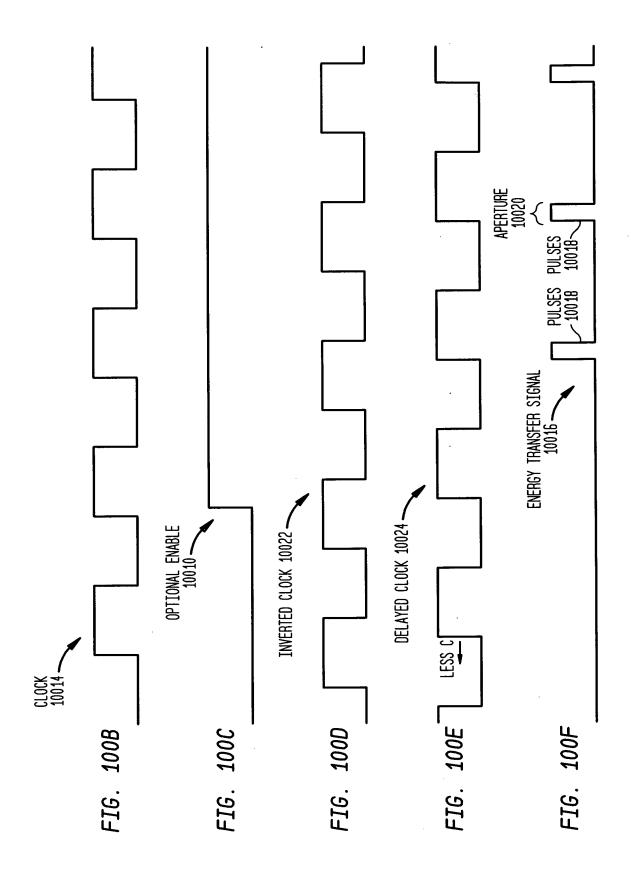
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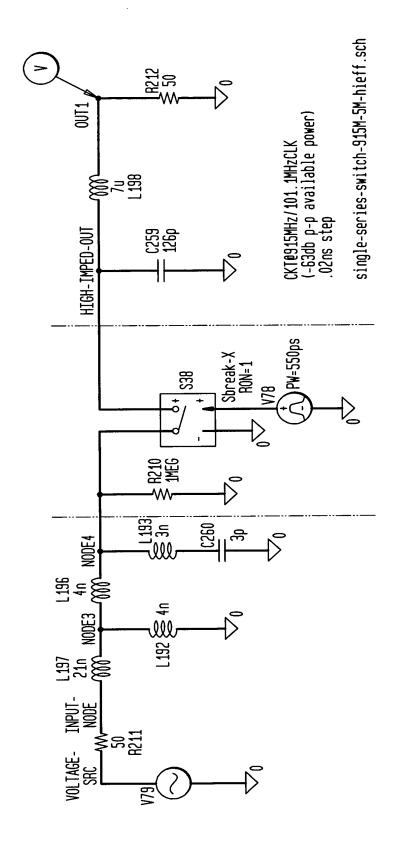
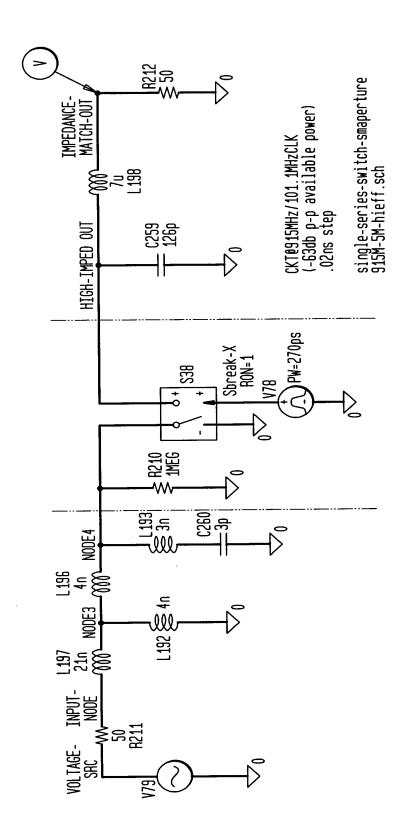
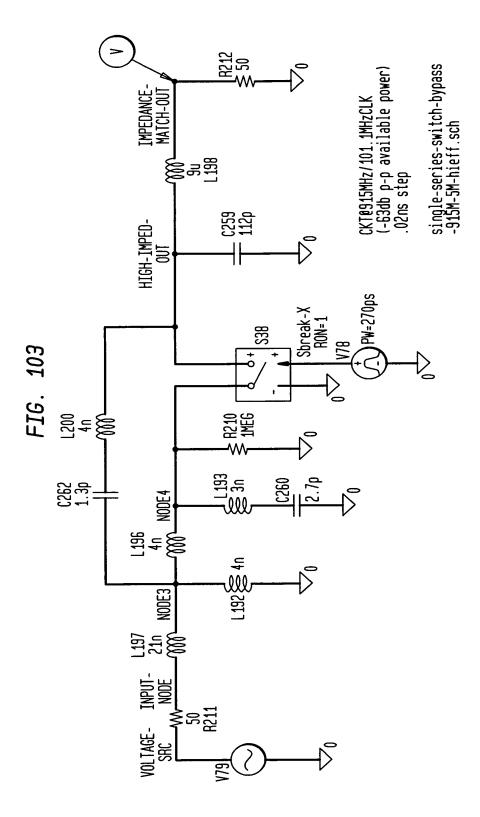


FIG. 101



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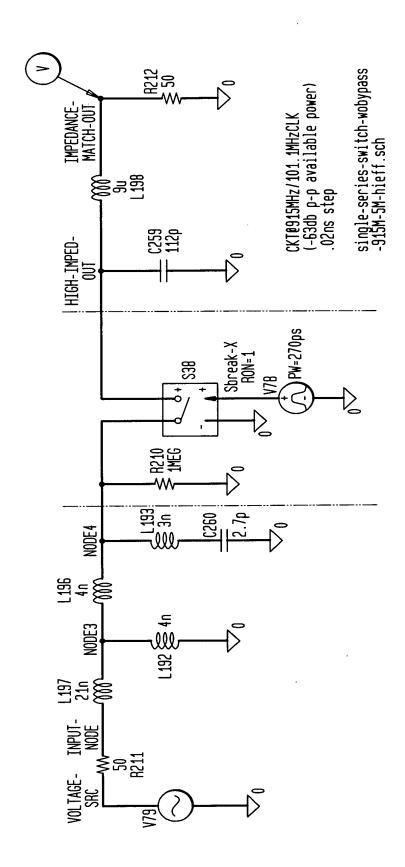


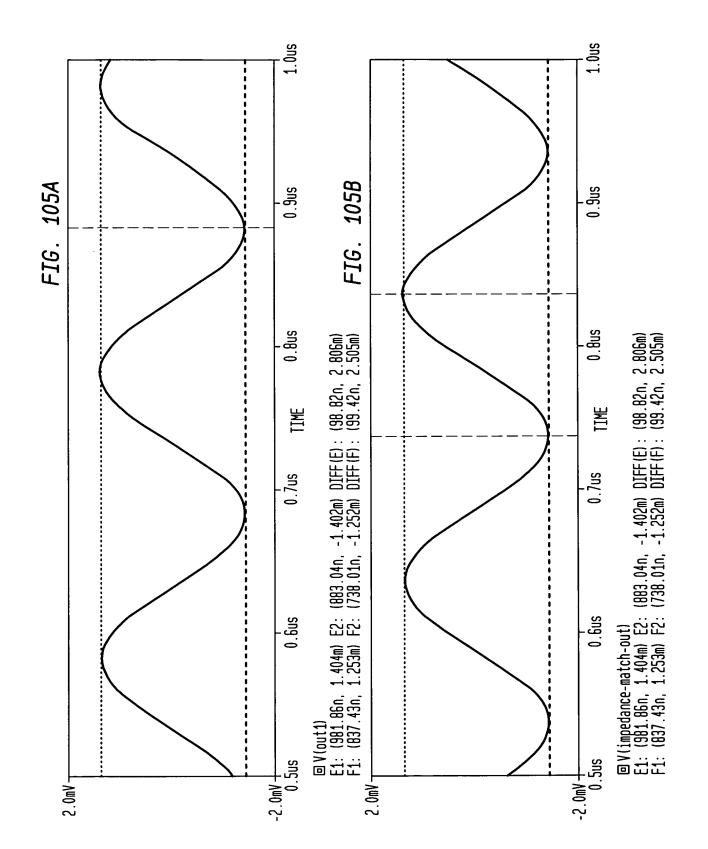
FIG. 104

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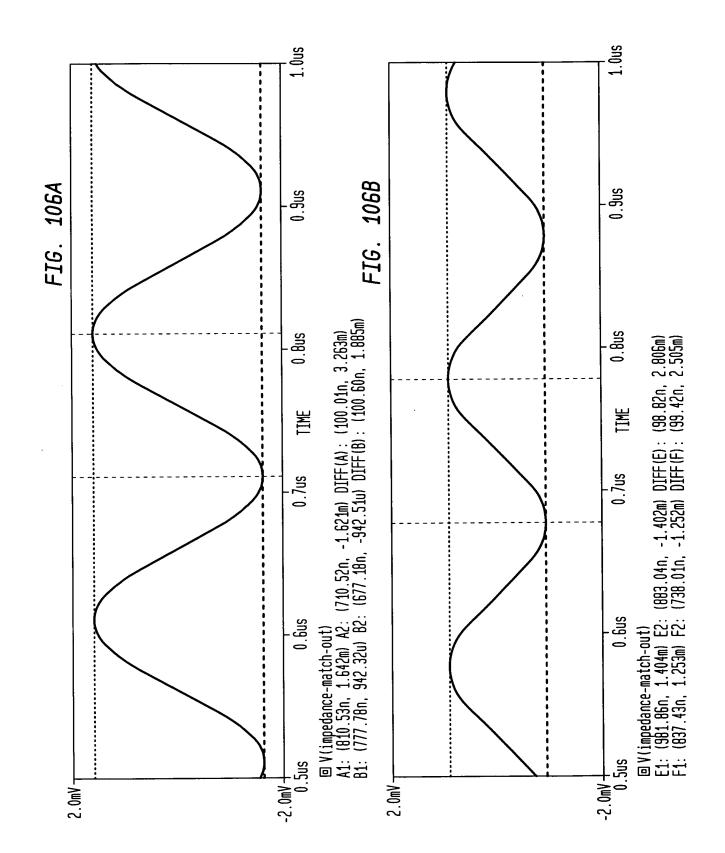
Frequency Translation



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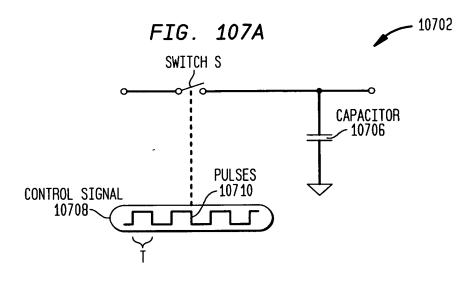


FIG. 107B

q=C•V	EQ. 10
V=A·sin(t)	EQ. 11
q(t)=C•A·sin(t)	EQ. 12
$\triangle q(t) = C \cdot A \cdot sin(t) - C \cdot A \cdot sin(t-T)$	EQ. 13
$\triangle q(t) = C \cdot A \cdot (\sin(t) - \sin(t - T))$	EQ. 14
$\sin(\infty) - \sin(\beta) = 2 \cdot \sin(\frac{\infty - \beta}{2}) \cdot \cos(\frac{\infty + \beta}{2})$	EQ. 15
$\triangle q(t) = 2 \cdot C \cdot A \cdot \sin\left[\frac{t - (t - T)}{2}\right] \cdot \cos\left[\frac{t + (t - T)}{2}\right]$	EQ. 16
$\triangle q(t) = 2 \cdot C \cdot A \cdot \sin(\frac{1}{2} \cdot T) \cdot \cos(t - \frac{1}{2} \cdot T)$	EQ. 17
q(t)= C·A·(sin(t)-sin(t-T))dt	EQ. 18
$q(t) = -\cos(t) \cdot C \cdot A + \cos(t-T) \cdot C \cdot A$	EQ. 19
$q(t) = C \cdot A \cdot (\cos(t - T) - \cos(t))$	EQ. 20

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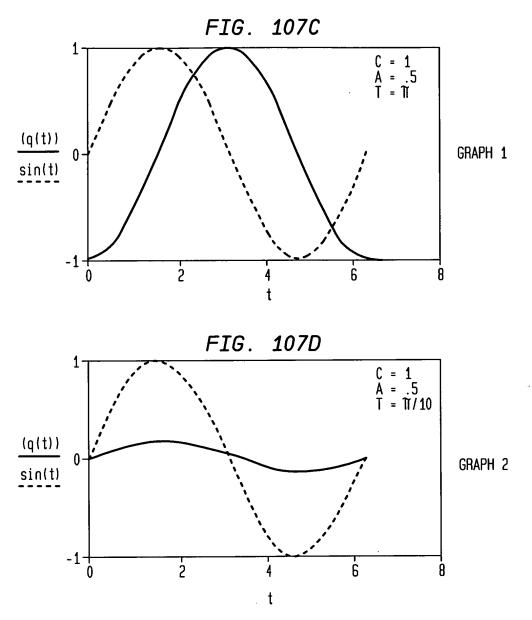


FIG. 107E

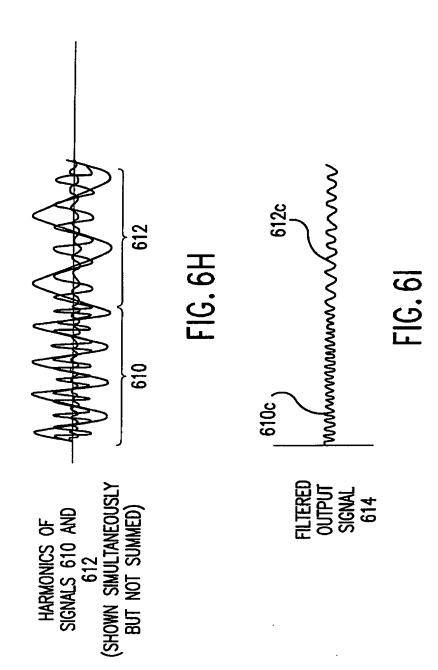
POWER-CHARGE	RELATIONSHIP
q=C•V	EQ. 21
V=q/C	EQ. 22
V=J/C	EQ. 23
J=q ² /C	EQ. 24
P=J/S	EQ. 25
P=q ² C·S	EQ. 26
c∙s	

FIG. 107F

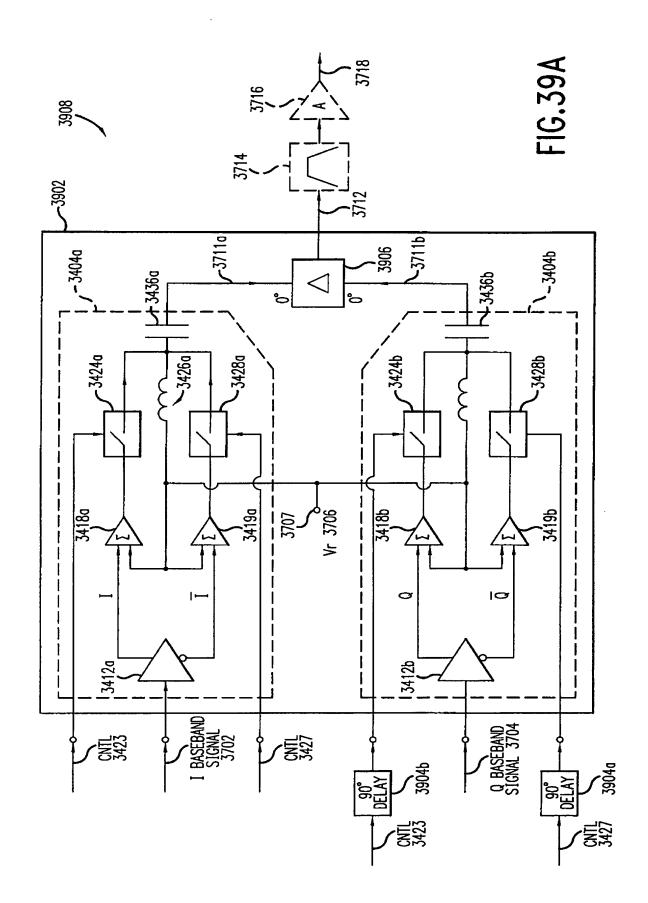
INSERTION LOSS
INSERTION LOSS IN dB IS EXPRESSED BY:
ILdB=10∙log(<u>Pin</u>) or
ILdB=10·log[\frac{(\frac{\text{Vin}^2}{\text{Rin}})}{(\frac{\text{Vout}^2}{\text{Rout}})}
\

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Frequency Translation



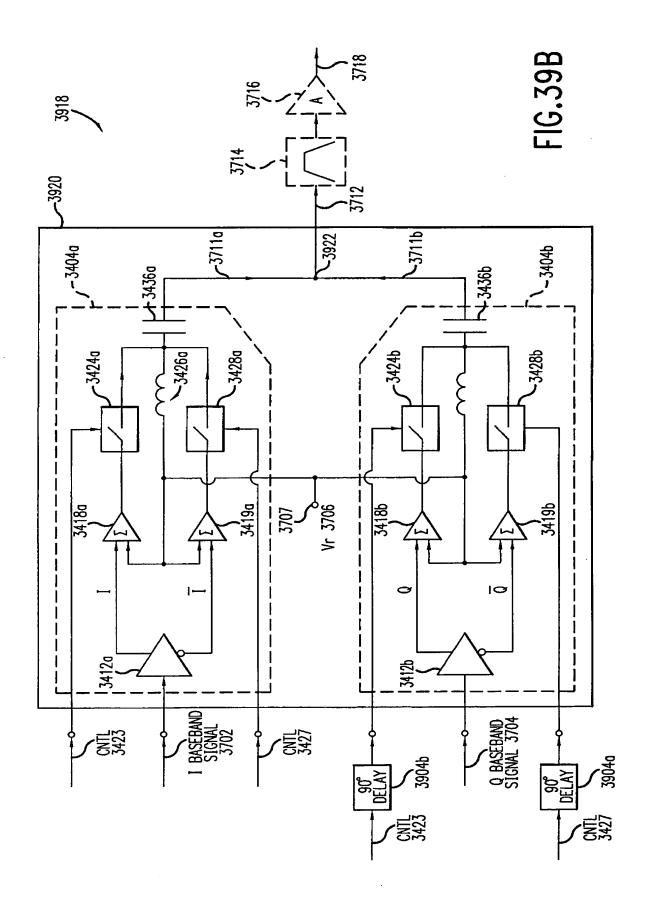


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First Named Inventor: David F. Sorrells
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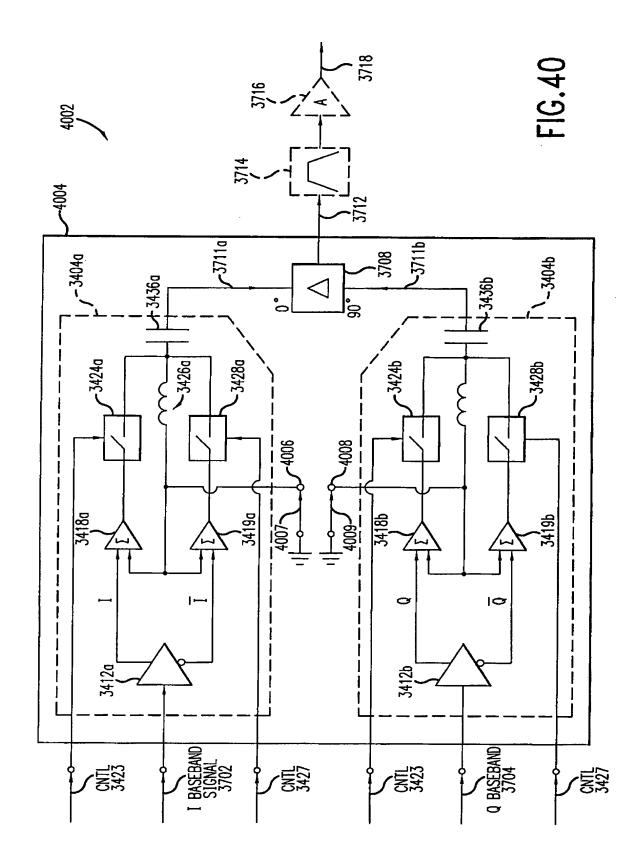


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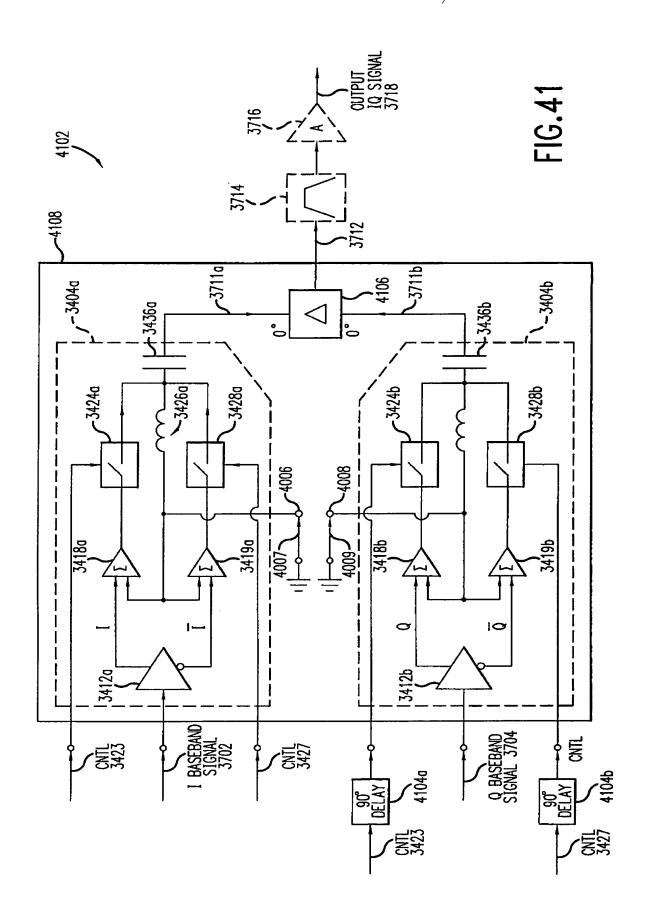


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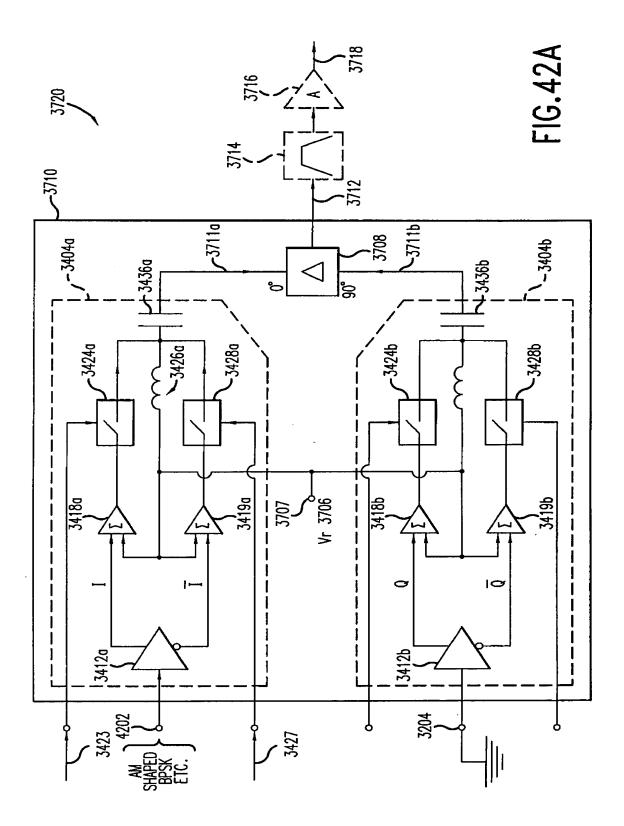
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